



SATURDAY, MAY 1, 1875.

Contributions.

Train Signal Mirrors.

The subject of communication between trainmen and engineers while trains are in motion is one of such importance that any improvement of practical utility is always welcomed with deserved interest as a step in the right direction. Many improvements have, of late years, been introduced for such communication on passenger trains, but very little seems to have been done for freight-train service.

With this we give an illustration of a very simple arrangement introduced upon the Great Western Railway of Canada, and designed by Mr. W. A. Robinson (the Locomotive and Car Superintendent of that road), which promises to be of assistance in the running of freight trains.

The device consists of the introduction of a mirror or looking-glass placed on the engine cab, immediately over the heads of the engineer and fireman, at such an angle as to reflect a view of the whole of the cars attached to the engine, and thus render the train behind as distinctly visible to the

knowledge at once gained by the engineman of any accident to the cars of his train, either by their getting off the track, or through accident from fire, or cars breaking loose. Many instances have occurred when lives could and would have been saved from burning cars had the men on the engine been able to see the cars in their rear by means of such an appliance.

We understand that Mr. Robinson, desiring to give the public the benefit of this device, places this improvement free for the use of all railroads desirous of adopting the same. No objection as to the cost, therefore, (as the apparatus is simple and cheap) will prevent its general introduction.

An Impostor Abroad.

CENTRAL PACIFIC RAILROAD COMPANY.
General Superintendent's Office.
SAN FRANCISCO, CAL., April 19, 1875.

TO THE EDITOR OF THE RAILROAD GAZETTE:

An impostor, calling himself W. J. Gillespie, but who, I am told, has a number of aliases, has had printed in Indiana copies of the letter-heads of this company for the purpose, doubtless, of obtaining favors from other roads. The letter-heads read as follows:

CENTRAL PACIFIC RAILROAD COMPANY.
Office of the General Superintendent of ———
SACRAMENTO, CAL., 187—.

W. J. GILLESPIE, GEN'L TRAVEL AGENT.

The fellow has no connection whatever with this company, and I take this means of warning railroad superintendents and others against granting any requests he might make, and

the base of rail being about 50 feet above the ordinary stage of water.

The work of reconstruction was begun at once, and a temporary bridge, consisting of two spans of trestle and two of Howe truss, was ready for use on Saturday, March 27.

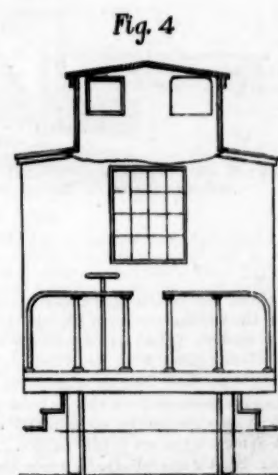
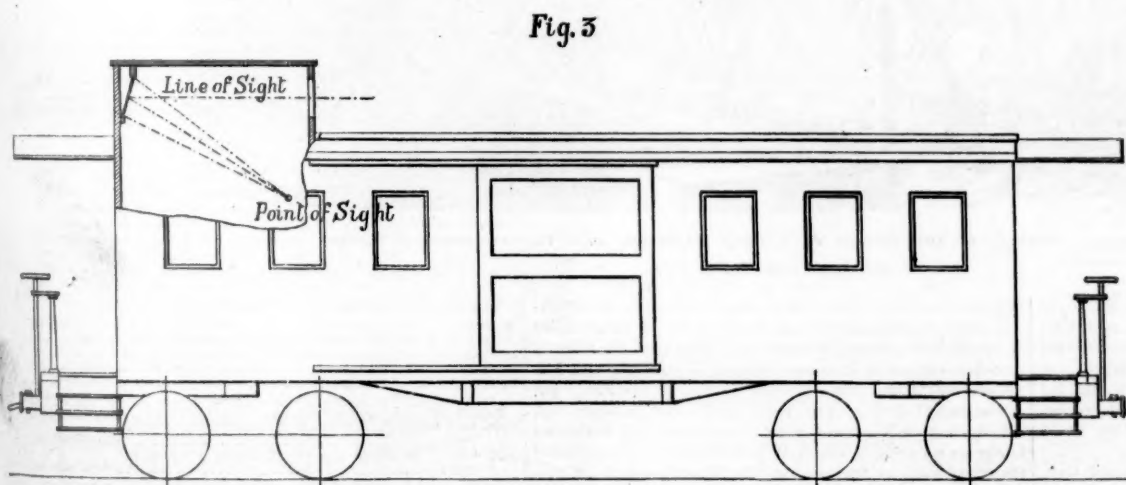
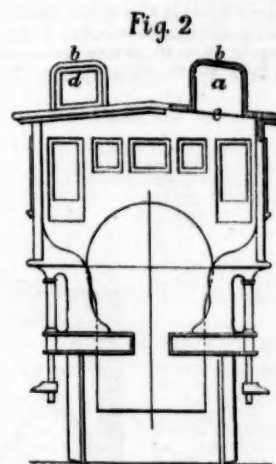
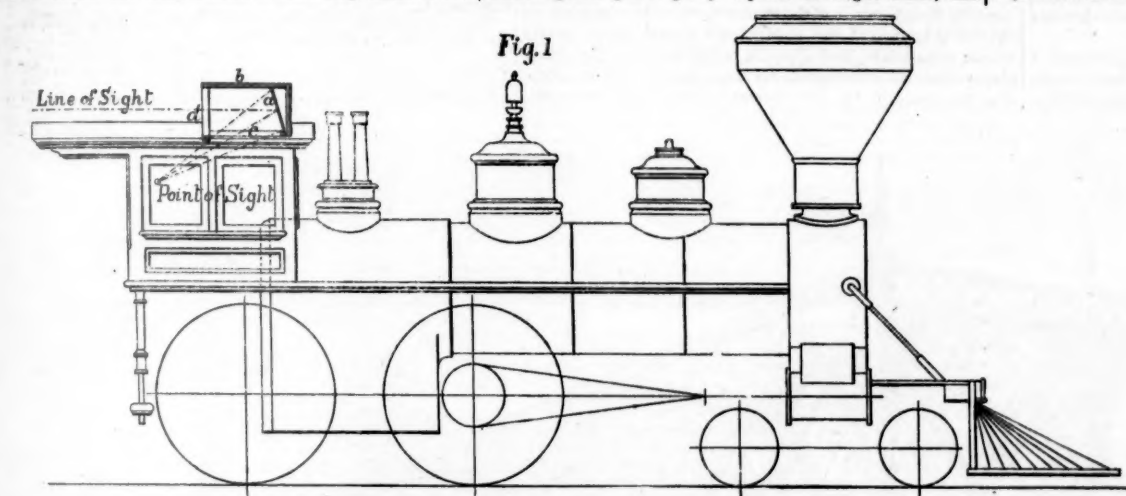
The plans for a new permanent structure were determined on and proposals were received on the day of the disaster, and on the following day a contract was closed with the Watson Manufacturing Company for the erection of a new iron bridge, the bridge to be a Pratt truss, built according to plans furnished from this office, and to be paid for by the pound. It was provided that the first span was to be ready for shipment in fifteen days, and that an additional span was to be ready every six days, each span to be swung within three days of the time of shipment. The plans were virtually completed and the bills of material were made out on the 18th, the day the contract was let.

The first span, 166 feet long over all, was entirely shipped on Saturday, April 3, being one day behind time, and swung on Wednesday the 7th, two days behind time.

The second span, 156 feet long over all, was entirely shipped on Thursday, April 8, being on time, and swung on Monday, April 12, one day behind time.

The third span, 156 feet, was shipped on Wednesday, April 14, on time, and swung on Saturday the 17th, also on time.

The fourth span, 156 feet, was shipped on Saturday the 17th, three days ahead of time, and swung on Monday the 19th, four days ahead of time.



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 ft.

engineman and fireman as the track in front. The mirrors, as shown at *a* (figs. 1 and 2), are secured in a kind of bottomless box, *b*, and placed over a hole, *c*, cut through the roof of the engine cab. The back end of the box next the tender is provided with a plain light of glass, *d*, for admitting the view of the train, and the frame of the glass *d* is so fixed on hinges or swivels that it may be conveniently opened for cleaning.

The arrangement of the mirrors is such that the engineman and fireman may, as often as desirable, have an instantaneous view of the whole train without changing their positions, whether standing at the throttle-lever or sitting down. The mirror boxes as shown may, of course, be made in one compartment by simply raising that portion of the engine cab the whole section, and introducing either two, or one long mirror the width of the cab, and so obtain a still more extended view of what is following behind the engine.

Figs. 3 and 4 show the same invention, also suggested by Mr. Robinson, for conductor cars, by means of which the conductor of a freight train, while sitting in his caboose, could at all times know the position of his brakemen while in the performance of their duty on the tops of the cars. In the case of caboose cars, the mirrors are placed at opposite ends of the box, so that the mirror on one side will serve for trains going in one direction, while that on the other side will be used when the car is traveling in the opposite direction.

Besides the value of these arrangements for the purposes of transmitting signals to the engineman, and the oversight of brakemen from the conductor's car, there is the very important

which they might feel disposed to honor, owing to his supposed connection with our company. The impostor is described as being a gentlemanly appearing sort of man, about forty years of age, dark complexion, with black hair and whiskers. By giving the above publication in your valuable journal, you will oblige yours truly. A. N. TOWNE, General Superintendent.

Rapid Bridge Construction.

NEW YORK, April 28, 1875.

TO THE EDITOR OF THE RAILROAD GAZETTE:

Your issue of March 27 contained a brief notice of the contract made by this company for the rebuilding of its bridge over the Delaware River, near Port Jervis, which had been destroyed by the ice freshet of March 17. The new structure being now completed, I take the liberty of correcting a few errors in your notice, and of sending you a brief statement of the facts relating to its building.

The bridge was destroyed at 7.40 a. m. on Wednesday, March 17. It was a double-track iron bridge of five spans, one through span over the Delaware & Hudson Canal, four deck spans over the Delaware River. The span over the canal was undisturbed. The ice lifted the four river spans from the piers, leaving the masonry uninjured. The east span settled down on the ice, remaining within a few feet of its proper position; the other three were carried down the river on the floating ice, and left at various points from four to twelve miles below. The west span was 160 feet long in the clear, each of the others 150 feet,

The permanent floor could not be placed on the last span till Sunday the 25th, and on the following day the double track was restored, precisely forty days after the destruction of the old bridge, the new iron bridge having been manufactured in thirty days and erected in thirty-two days from the time the contract was let.

The new bridge is a very heavy two-truss iron deck bridge, built according to the heavy standard in use on this railroad, the chords of each truss being proportioned for a moving load of 2,700 pounds per foot, the web for a moving weight varying from 2,700 pounds at the ends to 4,500 at the center, and the floor system for a rolling load of 4,500 pounds per foot. The trusses are only 17 feet deep between centers of chords, the bottom chord being placed eight feet higher than in the old structure. The long span weighs 304,422 pounds, and the other three average 265,641 pounds each, making a total of 1,101,345 pounds, besides the cast-iron bed-plates.

When the weight and capacity of the structure are taken into consideration, it is believed that this will be found to be one of the most rapid instances of bridge construction which has yet been effected.

GEO. B. MORISON,
Principal Assistant Engineer, Erie Railway.

Mr. Bender and the Springfield Bridge.

TO THE EDITOR OF THE RAILROAD GAZETTE:

Mr. Chas. Bender, in his articles on the Springfield Bridge, recently published in the *Gazette*, has intimated that the low limits of depth of truss and shortness of panels were fixed upon in

Mr. Philbrick's specifications, in order to favor the lattice bridge-builders; while in fact a low limit of depth of truss, so far as economy of material is concerned, operates against, instead of in favor of a riveted iron bridge, like that at Springfield. It is evident that the chords of both the riveted and pin-constructed bridges are affected precisely alike by any variations in the depth of truss, but such is not the case with the webs of the two styles. In a riveted lattice, like the one under discussion, the form of the compression members of the webs, and the manner in which they are connected with the tension members at each crossing, enables the designer to maintain a practically constant ratio of width to length between points of lateral support, while increasing the depth of truss without materially increasing the sectional area, and, consequently, the weight of metal; while in pin-constructed bridges, the long columns, without lateral supports between the ends, must, according to accepted formula, be rapidly increased in sectional area with increase of length. Now, bearing these facts (which, I think, will not be disputed) in mind, and remembering that in a lattice bridge like the one at Springfield the weight of the web bracing of the trusses is less in proportion to the weight of the chords than in a pin-connected bridge of the usual form, it follows that the most economical ratio of depth of truss to length of span is greater for the former than the latter, and hence a low limit of the depth of truss is less favorable, in point of economy of material, to the lattice than to the pin-connected bridge. As for the short length of panel complained of, I believe that 12 feet is not an unusual length in pin-connected bridges, even when the builder has been allowed to fix it to suit himself.

One word in regard to the floor system, to the demonstration of the weakness of which Mr. Bender devotes so large a portion of his letter in the *Gazette* of April 23. If, instead of dis-

may reach the same readers, that I received the contract for the Springfield bridge simply because I was the lowest bidder; I have never been unduly favored, when competing for work on the Boston & Albany Railroad, and never received a contract for work on that road, for which my bid was not the lowest.

The remarks of Mr. Bender regarding quality of iron used in the Springfield bridge I consider unworthy of notice as coming from an irresponsible party of whom I know nothing and care to know less. Having constructed some of the important railroad bridges in this country, having been engaged in the business for the past twenty-five years, I would simply state that I believe I constructed more feet of wrought-iron railroad bridges than any bridge company in the United States in the year 1874, and I consider my reputation sufficient guarantee of both quality and kind of material and workmanship used by me.

THOMAS LEIGHTON.

Correction.

TO THE EDITOR OF THE RAILROAD GAZETTE:

Since writing you last I find that a statement I made in a former letter was not strictly correct when I said that the Springfield bridge was built with a floor system to carry 15,000 lbs. per driving wheel within a certain limit of strains. Such was the original specification, and as it was not modified in the interest of the contractor, I had, when writing, forgotten that any subsequent modification was made; but I find on referring to my notes that I did modify it, not to lessen cost to the contractor, but to dispose of the iron in a way which I considered more for the advantage of the structure, viz.: by doubling up the lateral bracing at the ends of the spans, where lateral strains accumulate, and applying additional iron in other places where the specification did not require it. No modification was made in the floor beams, however, and either Mr.

Brought forward.....	\$435,334 77
Real estate purchased.....	\$154,351 72
Less real estate sold.....	30,623 29
	123,728 43
New buildings—round houses, &c.....	358,996 17
New stone and iron bridges (in place of wood).....	125,464 45
Total—1874.....	\$1,043,723 82
1875.....	2,349,959 84
1876.....	5,504,217 92
1877.....	3,343,383 70
1878.....	1,118,560 90

Total—five years.....\$13,354,846 26
In addition to the money expended for construction in 1874, a nominal loss of \$397,636.84 on \$500,000 Philadelphia & Erie Railroad stock sold during the year was charged to construction account by a resolution of the Board of Directors, in view of the manner in which the stock was acquired twenty years since by the then Cleveland & Erie Railroad Company.

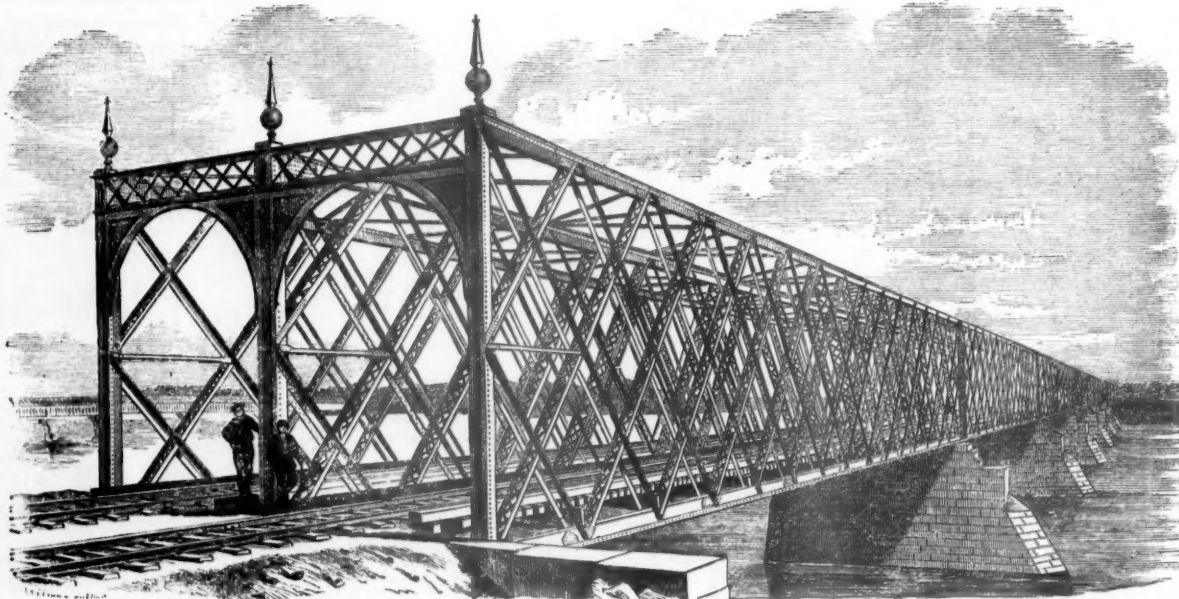
An enactment of the Legislature of the State of Pennsylvania passed February 18, 1849, required the Cleveland & Erie Railroad Company, or its successors, to hold this stock twenty years, until the maturity of the bonds given in exchange for it. This half million bonds matured July 1, 1874, and were paid, (except \$11,000 not yet presented for payment), releasing this stock, and it was sold immediately for \$162,363.16.

EQUIPMENT.

During the year 1874, the equipment was increased to the extent of thirty-five new locomotives—completing the contracts for fifty made early in 1873, under the administration of President Clark. Also 346 cars of various classes, chiefly Line cars, put in to reduce our car service account. This, taken in connection with the recent reduction from one and one-half cents to one cent per mile for freight car service, will reduce materially, in 1875, the large balance against us in 1874, for hire of cars, amounting to \$614,315.86, and included in the operating expenses.

The equipment for 1,175.39 miles of road operated, stood, at the close of the year 1874, as follows:

	Dec. 31, 1874.	Dec. 31, 1873.
Locomotives.....	497.....	462
Passenger cars—all classes.....	267.....	253
Freight cars—all classes.....	10,186.....	9,843



The Springfield Bridge, of the Boston & Albany Railroad, over the Connecticut River.

By the Leighton Bridge & Iron Works.

missing the connection of the cross-beamers over the lower chord of the middle truss as of no value in affecting a continuity of the girders, he had stated precisely what that connection consists of, and given it its just value in his calculations, the result might not have been as satisfactory to himself, but the candor and fairness with which it is to be presumed he has desired to discuss the merits or demerits of the bridge would have been more apparent to his readers.

But Mr. Bender has repeatedly more than insinuated that, aside from the unfairness of the specifications issued by Mr. Philbrick with his invitations for proposals for the Springfield Bridge, the party who obtained the contract was afforded unfair advantages of some kind in the competition.

Now, being at that time Engineer for the contractor, I designed the bridge and participated in, or was cognizant of all the negotiations preliminary to the execution of the contract, and to all such insinuations or charges I desire here to interpose my full and unqualified contradiction, and am content to let it rest there until the charge is repeated by one whose habit of careful adherence to fact in making statements is so well established as to render it worthy of further notice, when full and conclusive evidence of its utter groundlessness will not be wanting. Such assertions upon the character of a gentleman of Mr. Philbrick's high standing and unimpeachable integrity are harmless enough among those who know him, and can only damage the originator.

CHARLES HILTON.

New York, May 5, 1875

The Letting of the Springfield Bridge.

OFFICE OF THE LEIGHTON BRIDGE AND IRON WORKS.
ROCHESTER, N. Y., April 29th, 1875.

TO THE EDITOR OF THE RAILROAD GAZETTE:

In the discussion over the merits of the Springfield bridge conducted through the medium of your valuable paper between Messrs. E. S. Philbrick and C. Bender, I read several insinuations made by the last mentioned party which I consider unbecoming in any one laying claim to the title of gentleman or who desires to be respected by the members of his profession. The one I desire to call particular attention to is his remark that the letting of the Springfield bridge was a commercial transaction. I desire to state through your paper, in order that it

Hilton or myself may have time some day to prove the unfairness of Mr. Bender's criticism on these points. So far as these track stringers from being tighter than those used for floors of first-class bridges by first-class builders on the pin and link system that I find them actually subject to less strain per square inch than those of the lower bridge over the Hudson at Albany, built by Clarke, Reeves & Co., where the same sized beams are used with a length of panel about six inches greater than that used at Springfield. The blows received by this bridge, already referred to by Mr. Bender, which resulted in a serious injury to one truss, did no serious harm to the floor, proving it to be strong enough to withstand extraordinary shocks with impunity, though not quite so strong as that at Springfield.

EDWARD S. PHILBRICK, C. E.

Boston, April 30, 1875.

Lake Shore & Michigan Southern Report.

The President's report is given in full below:
The President and Directors of the Lake Shore & Michigan Southern Railway Company submit to the Stockholders the following report for the fiscal year ending December 31, 1874:

ROAD OPERATED.

The number of miles of road operated in 1874 was the same as in 1873—1,175.39 miles—of which 540.37 miles are Main Line, (Buffalo, N. Y., to Chicago, Ill.,) and 635.02 miles are branches and tributary roads. This company owns 1,024.71 miles (although 160.11 miles are embraced in three other organizations), and leases 150.68 miles.

Of the 540.37 miles of Main Line 230.80 miles are double track, which is equivalent to 770.45 miles single track in the Main Line, of which 514 miles, or exactly two-thirds, are laid with steel rail.

The side tracks have been increased in 1874 by 40.67 miles, and now amount to 429.22 miles.
The total number of miles of track to be maintained amounts to 1,835.4.

A detailed table of these tracks, location by States, etc., will be found in the usual place in this report.

CONSTRUCTION.

This account for 1874 amounted to \$1,043,723.82, as follows:

New side tracks, 40.67 miles.....	\$359,447 90
Ashtabula Harbor—docks for coal, &c.....	70,086 87
Carried forward.....	\$435,334 77

The amount expended for additional equipment was:

In 1874.....	35 Locomotives.....	346 Cars.....	\$702,782 09
In 1873.....	44 Locomotives.....	828 Cars.....	1,196,502 13
In 1872.....	72 Locomotives.....	1,718 Cars.....	1,963,882 90
In 1871.....	47 Locomotives.....	1,151 Cars.....	1,301,402 50
In 1870.....	25 Locomotives.....	601 Cars.....	654,309 45

Total 5 yrs. 223 Locomotives.....1,644 Cars.....\$5,808,849 07
Total cash outlay for construction and equipment—five years.....\$19,163,695 32
Add cost of Northern Central Michigan R. R.—61.14 miles.....1,347,494 96

Total.....\$20,511,190 28

During this period of five years the

Bonded debt of the company was increased.....\$15,110,000, yielding..\$13,242,806 34
The capital stock of the company was increased.....15,000,000, yielding..5,459,684 72
Total.....\$30,110,000, yielding..\$18,702,491 06

CAPITAL STOCK.

The capital stock of the company is \$50,000,000, to wit:

Guaranteed (10 per cent.).....	5,335 Shares—\$100.....	\$533,500
Ordinary.....	494,665 Shares—100.....	49,466,500
	500,000 Shares—\$100 each.....	\$50,000,000

Of the guaranteed stock, the claim for dividends between 1857 and 1863 has been settled by compromise on \$350,000, leaving \$182,900 still unsettled. Dividends of 5 per cent. February 1, and 5 per cent. August 1, have been regularly paid on this stock since August 1, 1863, the date of the first dividend.

Of the ordinary stock, the company owns 2,514 shares (\$251,400), which appears among its assets in the balance sheet.

BONDED DEBT.

The bonded debt of the company stood—

At the close of the year 1874.....	\$35,511,000
December 31, 1873.....	30,195,000

Increase.....\$5,316,000

in second general mortgage bonds (described in last annual report). These bonds were sold at 90, yielding to the company \$5,697,416.68, thus enabling the company to extinguish its large and troublesome floating debt.

With regard to the issue of this new second general mortgage, the following statement was made in the last report:

"It is expected that the issue of \$12,000,000 of these bonds will retire the \$6,000,000 bonds of 1882, and extinguish the floating debt. The balance of the \$25,000,000 will be held in reserve for purposes of construction and equipment, and will not be used except in case of the most urgent necessity."

That this policy has been rigidly adhered to is shown by the

fact that the floating debt is extinguished, and the issue of bonds stands as follows:

New second general mortgage bonds outstanding.....	\$8,471,000
New second general mortgage bonds set aside to be exchanged for the entire amount of bonds of 1882 outstanding.....	3,529,000
	\$12,000,000

The usual table giving details of each class of bonds now outstanding will be found on a subsequent page.

	1874.	1873.	Inc. or Dec.	P. c.
From freight—				
\$221,267 tons.....	\$11,918,349 78	\$14,192,398 77	Dec.	\$2,274,048 99 16.0
From passengers—				
3,096,263 passengers.....	4,249,022 37	4,569,729 74	Dec.	320,707 37 7.0
From all other sources.....	978,758 61	652,380 75	Inc.	326,377 86 50.0
Total.....	\$17,146,130 76	\$19,414,509 26	Dec.	\$2,268,378 50 13.2
Operating expenses and taxes—				
1874, 65.04 p. c. 1873.				
76.9 p. c.	11,152,371 56	13,746,598 54	Dec.	2,594,226 98 18.8
Net earnings.....	\$5,993,759 20	\$5,667,910 72	Inc.	\$325,848 48 5.7
Interest, leases and dividend (10 p. c.) on guar'd stock.....	\$3,008,192 76	2,654,500 57	Inc.	353,692 19 13.3
Balance—equal to 6 p. c. upon the capital stock and \$17,576 44 surplus.....				
Paid dividend No. 10, 3½ p. c., Feb. 1, 1875.....	1,607,661 25			
Balance absorbed in the \$1,746,505 91 expended for construction and equipment.....	\$1,377,905 19			

* Includes \$156,898.65 interest on floating debt which accrued in 1873, but was actually paid early in 1874.

The results for the five years of this company's existence are as follows:

Year.	Gross Earnings.	Amount.	Per cent.	Net Earnings.
1870.....	\$13,509,235 53	\$8,368,821 08	61.95	\$5,140,414 45
1871.....	14,998,449 38	9,779,806 23	65.64	5,218,643 15
1872.....	17,899,935 24	11,839,526 02	66.20	5,860,409 22
1873.....	19,414,509 26	13,746,598 54	70.90	5,667,910 72
1874.....	17,146,130 76	11,152,371 56	65.04	5,993,759 20

These figures show the gratifying fact that notwithstanding the large decrease in earnings in 1874, as compared with 1873, amounting to \$2,268,378.50—11.6 per cent., the operating expenses have also been reduced \$2,594,226.98—18.8 per cent., making an increase in net earnings of \$325,848.48.

The net earnings of 1874 are the largest in the history of the company.

The decrease in earnings is all in through freight, as the decrease in passenger earnings—\$320,707.37—is more than met by an increase in earnings from all other sources, \$326,377.86.

The decrease in freight earnings is as follows:

From reduced average rate per ton per mile.....	\$1,549,079 59, or 11 p. c.
From reduced average distance moved.....	724,969 40, or 5.2 p. c.
Total decrease.....	\$2,274,048 99, or 16.2 p. c.

The following comparison of rates received for transportation of freight will show that the past year has been marked by the lowest rates ever known in the history of railroads:

	1874.	1873.	1872.	1871.	1870.
East-bound freight—per ton per mile.....	1.008	1.297	1.272	1.357	1.350
West-bound freight—per ton per mile.....	1.432	1.437	1.688	1.478	1.882
All freight—per ton per mile.....	1.180	1.335	1.374	1.391	1.504

The decrease of 155-1000 of one cent per ton per mile in 1874, as compared with 1873, amounted to a loss in net earnings of \$1,549,079.59, which is more than three per cent. upon the entire capital stock of this company.

The local business of the road shows a handsome increase over the exceptionally prosperous year of 1873, the tonnage of local freight moved being 15.4 per cent., and the number of local passengers carried 9.4 per cent. greater in 1874 than in the previous year.

The earnings from passengers, as compared with 1873, show the following results:

1874—Moved 3,096,263 passengers an average of 56 miles, at an average of 2.45 cents per mile, earning.....	\$4,249,022 37
1873—Moved 2,845,163 passengers an average of 63 miles, at an average rate of 2.55 cents per mile, earning.....	\$4,569,729 74

While these figures show an increase of 251,100 (8.12 per cent.) passengers moved, and the largest number ever transported, yet the distance traveled was shorter by 7 miles (11.11 per cent.), and the rate per mile less by exactly one mill, resulting in a decrease in earnings of \$320,707.37 or 7.01 per cent.

It is a noteworthy fact, that while the number of passengers moved was increased 8.12 per cent., the mileage of passenger trains was diminished 14.63 per cent.

OPERATING EXPENSES.

Operating expenses and taxes, 1873.....	\$13,746,598 54
Operating expenses and taxes, 1874.....	11,152,371 56

Reduction (18.8 per cent.)..... \$2,594,226 98

Immediately following the panic of 1873, a determined and effective policy of economy was introduced and enforced in every department of the road.

The pay roll for 1874, as compared with 1873, was as follows:

1874—For an average force of 10,747.....	\$6,046,238
1873—For an average force of 12,318.....	7,567,597

Reduction..... 1,521,359

Of this reduction of pay-roll \$975,667 was caused by the reduction of force worked, and \$545,692 (8.3 per cent.) by reducing the pay of the force retained.

A large reduction has been made in the mileage of trains, although the tonnage of freight moved was only 5.2 per cent. less, and the number of passengers moved was 8.12 per cent. more, in 1874 than 1873.

The mileage was as follows:

	1874.	1873.	Reduction.
Freight trains.....	6,490,510	8,026,320	1,535,810—19.13 per cent.
Passenger trains.....	2,820,574	2,952,823	132,249—4.48 per cent.

The expenses include 7,400 tons—78 miles—steel rails; also 609,092—242.77 miles—cross-ties have been renewed. 307 cars of various classes were built or purchased to replace a like number worn out or destroyed.

The road and equipment are in excellent condition, and ready to do a very large business whenever the revival of prosperity comes. There was expended in maintaining the road and equipment in 1874 25.46 per cent. of its earnings; the average for five years is 28.19 per cent.

CONCLUDING REMARKS.

When I was elected your President, July 1, 1873, I found the financial condition of this company to be as follows: Capital

Stock, fifty millions dollars, all issued; funded debt, \$29,730,000; floating debt, \$6,277,485, including a dividend due August 1, \$2,004,315, and bills and pay-rolls for June, \$1,478,686.

There was not a dollar in the treasury.

Contracts for construction, equipment, 20,000 tons steel rail, etc., to the amount of \$7,894,845, had been made and the work all commenced, with no provision whatever for meeting the large payments.

The panic of 1873 occurred in September, and disclosed the fact that the entire dividend just paid (\$2,004,315) had been borrowed, on call, of the Union Trust Company. That institution closed and passed into the hands of a receiver, who called this large loan at a time when money could not be borrowed on the best collateral security. After giving the Trust Company ample security of my own for this debt, thus saving the road from bankruptcy, I undertook to extricate the company from its financial difficulties.

The contract for building the second track from Elkhart to Chicago, one hundred miles, had been let and work commenced. This contract, amounting to \$1,500,000, was amicably canceled without loss. Strenuous efforts were made to procure a release from other large contracts, but so much material had been purchased and work done, it was impossible, and they have all been fulfilled. At this time not a single contract involving the payment of money is outstanding.

The money required to meet these obligations amounted to \$6,394,845.41, as follows:

Construction, real estate and equipment.....	\$3,754,006 84
20,000 tons steel rail, at \$123 per ton, all taken and charged to operating expenses.....	2,400,000 00
Completion Northern Central Michigan Railroad.....	65,905 00
Government tax claim paid.....	114,933 57
Total.....	\$6,394,845 41

The debt of the company has been increased from \$36,007,485 to \$37,344,225, increase only \$1,337,740, of which \$649,146 was discount on six and one-half millions bonds issued to fund the floating debt.

The passing of two dividends, Feb. 1 and Aug. 1, 1874, and applying the undivided earnings of 1873 and 1874, \$2,413,215.34, to cancel these obligations, has helped materially in thus quickly putting the company upon a sound financial basis, without a dollar of floating debt, and restoring it to its former high position as a dividend-paying road.

As soon as this position was reached, the policy of paying over to the stockholders every dollar of the earnings of their property was commenced, and a dividend at the somewhat exceptional rate of 3½ per cent. was paid February 1, 1875, from the earnings of the last half of 1874.

The charges against net earnings, which take precedence of the dividend, are: interest on funded debt, leases of branch roads, and dividend upon the guaranteed stock; and for the year 1875 will not exceed \$2,850,000, or \$237,500 per month.

Your attention is invited to the very full and complete tabular statements, financial and statistical, which form a part of this report. They are replete with interest to all who are interested in the working of railroads, whether stockholder or expert.

As your President, I place on record here an acknowledgment of the obligations of the owners of this great property to Mr. Amasa Stone, who at my earnest request reluctantly took charge of affairs upon the line at the same time that I became your President.

He, aided by able, efficient officers at the head of each department, has rendered the greatest assistance in carrying out the economical and conservative policy which has produced these favorable results.

C. VANDERBILT, President.

CLEVELAND, Ohio, May 5, 1875.

WARNINGS AND EXPENSES IN DETAIL.

The following admirable table prepared by the Auditor shows just where the savings have been made:

Per cent.	1873.	Earnings.	1874.	Per cent.
73.1	\$14,192,398 77	From Freight.....	\$11,918,349 78	69.5
23.6	4,569,729 74	Passengers.....	4,249,022 37	24.8
1.6	317,257 49	Express.....	312,988 84	1.8
1.2	234,695 20	Freight.....	594,899 77	3.1
2	49,607 09	Rents.....	44,393 84	3
3	66,920 97	All other sources.....	86,476 16	5
100.	\$19,414,509 26	Total.....	\$17,146,130 76	100.
		Decrease.....	\$2,268,378 50	

Per cent. of earnings.....

Per cent. of earnings.	1873.	Expenses.	1874.	Per cent. of earnings.
1.01	\$195,590 44	General office expenses.....	\$218,460 79	1.31
3.97	769,442 99	Conductors and trainmen.....	632,941 22	3.69
4.45	930,217 70	Engineers and firemen.....	747,978 37	4.37
10.68	2,071,504 83	Agents and station labor.....	1,848,423 62	10.79
22	43,505 94	Telegraph repairs and supplies.....	25,354 80	15
21	38,991 34	Gas-light account.....	37,671 65	22
3.99	774,457 35	Repairs—Engines and tenders.....	708,984 82	4.12
5.52	1,070,040 12	Cars.....	958,626 88	5.59
10.89	2,118,846 57	Road way and track.....	1,535,547 02	8.96
8.12	1,577,500 83	Steel and iron rails.....	782,949 18	4.39
39	73,871 95	Repairs—Bridges.....	87,385 64	34
45	87,550 14	Fences.....	71,651 52	42
1.58	306,270 61	Buildings.....	280,879 54	1.64
7.98	1,521,393 83	Fuel consumed.....	1,226,592 97	7.16
87	169,140 31	Oil and tallow.....	184,980 28	90
27	52,385 71	Waste and rags.....	37,046 57	22
1.42	276,714 14	Office, train and station supplies.....	219,125 44	1.28
35	67,863 55	Damage and loss—Freight and baggage.....	45,468 20	37
19	36,121 70	Damage to property and cattle killed.....	13,075 02	98
30	57,719 07	Personal injuries.....	47,863 19	28
38	68,723 44	Law expenses.....	49,762 39	29
38	15,238 47	New York office.....	31,456 62	18
1.14	79,650 43	Rents payable.....	75,893 91	43
	220,828 88	Outside agencies and advertising.....	253,319 74	1.46
16	30,893 25	Contingencies.....	13,209 95	98
3.47	678,501 63	Hire of cars.....	614,315 86	3.50
68.50	\$13,288,004 29	Total.....	\$10,652,714 72	62.13
2.40	456,594 25	Taxes.....	499,686 84	2.91
70.90	\$13,746,598 54	Total operating expenses and taxes.....	\$11,152,371 56	65.04
29.10	\$5,667,910 72	Decrease.....	\$2,594,226 98	34.96
		Net earnings.....	\$5,993,759 20	
		Increase net earnings.....	\$325,848 48	
100.				100.

THE SCRAP HEAP.

Railroad Manufactures.

The Missouri Furnaces at South St. Louis have started up, and have some heavy orders for Bessemer pig.

The Iron Mountain Iron Company is shipping 40 car loads of

ore per day to St. Louis, most of which is forwarded in barges up the Ohio.

The Lochiel Iron Works at Harrisburg, Pa., have suspended work for the present, owing to the difficulty of getting a supply of coal.

The Pennsylvania Steel Works at Harrisburg are running double turn, and making about 175 tons of rails per day.

The Greenville (Pa.) Iron Company's Mill is running double turn, and has orders ahead for some time.

The Cherry Valley Iron Company's rolling mill at Leontonia, O., has been started up full time, and employs about 100 men.

The Scotia Iron Company of Missouri reports recent sales of 3,000 tons pig iron to the Joliet Iron and Steel Company, and 3,000 tons to the Pennsylvania Steel Company.

The iron furnaces of the Schuylkill and Lehigh regions have, in many cases, begun to use coke, on account of the scarcity of coal, owing to the miner's strike. Large quantities of coke, from the Broad Top region, are now passing through Harrisburg and over the Reading road.

The St. Albans (Vt.) Iron and Steel Works have the contract for the rails for the Woodstock Railroad.

The Baltimore Bridge Company has secured the contract for the great bridge over the Kentucky River, on the Cincinnati Southern road, which is to be 275 feet above the river, and 1,068 feet long.

The Indiana Car Works at Cambridge City, Ind., are working on full time, with the usual force of men. The Company is just completing an order for 50 street cars for St. Louis.

The Cleveland (O.) Spring Company is running full time, and employs about 125 men. Besides locomotive and car springs, car seat springs and carriage springs are made in large quantities.

It is stated that the Manchester Locomotive Works have received orders for 12 additional engines, for the Northern Colonization Railway of Canada.

The house of George Bliss & Co., manufacturers of and dealers in telegraph instruments and supplies, has been sold out to the Western Electric Manufacturing Company, of No. 220 Kinzie street, Chicago. Mr. George H. Bliss, who, for a long time was Superintendent of Telegraph of the Chicago & Northwestern Railway, has been appointed General Agent of the company.

The trustees of the bankrupt Moore Car Wheel Company of Jersey City, announce that at 10 o'clock, in the morning of May 15, they will sell at auction, at the corner of Greene and Pearl streets, Jersey City, all the undisposed assets of the bankrupt, including the good will of the business, the tools and machinery, the stock on hand, and the claims and all other assets.

The Globe Iron Works, at Cleveland, O., is building some light engines or dummies for the Lake View and Collamer road.

The Barney & Smith Manufacturing Company, at Dayton, O., is building the cars for the new Lake View & Collamer Railroad.

The Grant Locomotive Works.

A meeting of the creditors was to be held in New York, May 6, when the committee appointed at the former meeting expected to present its report, and submit a proposed basis of settlement with the company.

Still Faster Time on the Chicago, Burlington & Quincy.

On the 29th of April, the Atlantic express on this road reached Galesburg, 164 miles from Chicago, four hours behind time, all of which was made up so as to reach Chicago on time. From Galesburg to Mendota, 80 miles, with four stops, and taking water at one of them, it was 111 minutes—43 miles an hour; from Mendota to Aurora, 46 miles, it was 56 minutes—49.3 miles per hour. The locomotive was run by Richard Nixon.

The Pennsylvania Steel Company.

Statements have been current to the effect that this company had purchased the East Tennessee & Western North Carolina Railroad, a branch of the East Tennessee, Virginia & Georgia, and also the Cranberry Iron Works and a large tract of iron-ore property in the Unaka Mountains in Western North Carolina. The Bulletin of the American Iron and Steel Association, speaking by authority, denies both reports.

The Martin Steel Patent.

French papers say that Schneider & Co., the proprietors of the great works at Creusot, have purchased the Martin patent for making cast steel, lasting till 1880, for \$90,000.

Prices of Rails in April.

Bigelow & Johnston report foreign rails "nominal," for lack of transactions. American iron they report \$48 to \$52, currency, per ton, and American steel at \$74 to \$75. The first importation of the year at New York were in April, amounting to 812 tons of steel, against 24,032 tons of steel and no iron for the first four months of 1874. Old rails are quoted at \$27 to \$28, and 622 tons were imported. The firm says:

New Rails.—The business in American during the month, though by no means active, has shown some improvement as to extent, though not as to price. We find, however, great differences in the reports from various localities, some claiming well filled order books while others, particularly east of the Ohio, experience no improvement whatever. We think, however, that this at least may be said: the transactions, however limited, are of a much safer character than formerly. For steel there has been a good inquiry, and Western mills report themselves pretty full for the year. In foreign iron and steel rails we hear of no transactions, the small importation this month being probably a fragment of some old order.

Old Rails.—Demand very slight and prices lower. A very large quantity is offered at various points where steel rails are replacing iron. There are no double heads in market, the last available parcel consisting of about 1,800 tons, lying in store in Canada, having been sold at \$18 gold, cash. Price in London about £4 5s. f. o. b.

Scrap Iron.—Business inactive but holders firm.

Pig Iron.—In spite of the continued coal strike and the approach of what ought to be the active season, we see no signs of any revival. The outlook is exceedingly discouraging, and it is pretty certain that not even a reduction of \$2 or even \$3 per ton would induce large purchases. Consumers are too conservative to anticipate their wants, and of speculation or inclination thereto there is not a spark. Scotch is in retail demand and stocks begin to accumulate. Our quotations represent the extremes that could be obtained for various brands ex dock, but any pressure to sell would break the market further.

Duplex Tickets.

The tickets of the American Duplex Ticket Company are now used on the railroads of no less than 87 companies in the United States and Canada, and on one in Ireland. Among those who have adopted them recently are the Boston & Providence, the Cincinnati, Lafayette & Chicago, the Northern of Canada, the Toledo, Wabash & Western, and the West Jersey. Twenty lines in New York use them, all four of the "trunk lines," and three Chicago roads.

American Locomotive Exports.

During the last fiscal year there were exported from the United States 79 locomotives, of which 19 went to Chile, 14 to Russia, 13 to Brazil, 12 to Cuba, 9 to Canada, 4 to the Argentine Republic, 3 to Mexico, 3 to Central America, and 2 to Peru. The number of stationary steam engines exported was only 48, all to American countries, except one to Liberia.



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Editorial Announcements.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Contributions.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particularly as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for sale, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matters as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

THE LAKE SHORE REPORT.

Of the three great roads which form the Western halves of the great lines from New York to Chicago, all very prosperous and profitable until 1873, only one, the Pittsburgh, Fort Wayne & Chicago, has been able to maintain dividend payments without interruption. The Michigan Central, whose stock was not long before worth as much as 130, was the first to pass dividends, and the Lake Shore, overtaken by the panic in the midst of very extensive and costly improvements, intended to accommodate the increase of traffic, which the panic has prevented, passed two dividends and resumed last January at a lower rate. The Great Western of Canada, which forms part of the Michigan Central route, has fallen furthest, and not only has passed all dividends, but has not recently earned enough to meet the interest on its bonds, though it has succeeded in raising money to pay that interest and has made no default.

The old Lake Shore management seems to have counted confidently on the perpetuity of the flush times of 1871 and 1872, for the improvements undertaken, (which at the rate traffic was growing then would soon have become indispensable) were not only undertaken on a magnificent scale, but were prosecuted before the money was obtained for paying for them. The usual dividend was declared in the summer of 1873, though the net earnings had been expended for the recent construction, and the bonds being unsalable at the time, the money was borrowed for the dividend, just before the panic made it more than ever impossible to sell bonds, or to continue to make large net earnings from traffic, or to extend call loans such as that out of which the dividend was paid. In fact, just after the panic, this company, with a capital stock of fifty millions, but for the aid of one man in all probability would have been bankrupt, though it had always earned and was still earning a large surplus over its fixed charges. It had become deeply involved suddenly and contrary to the expectation of its managers, just as rich men not un seldom are, when they promise to pay at a certain day more money than they can possibly raise at that time. To all appearances, Commodore Vanderbilt, the new President of the company, on whom the death of the former President, his son-in-law, had devolved the task of extricating the company from its embarrassments, saved the Lake Shore & Michigan Southern Company from bankruptcy in the Fall of 1873, when, at a time when it was next to impossible to borrow money on any terms, on his personal security he obtained what was necessary to relieve the company from its difficulties. Then and

since then Lake Shore has been no favorite in the stock market. Rumors have been published concerning its condition which intimated that more than one dividend had been paid from money borrowed ostensibly for "improvements," and that really the net earnings would hardly meet the interest on the bonds; that, indeed, the large additions to the capital account within the last few years were represented by very little property.

The report of President Vanderbilt for the year 1874, which we publish in full in this number, presents an account of all expenditures for road construction and equipment for each of the past five years. The sum of the expenditures on these accounts in that time has been about \$20,000,000; the additions to the stock and bonds for the same time about \$30,000,000. The new stock (\$15,000,000) was issued at one-third of its face, so the improvements are seen to cover all the cash receipts from the additions to the capital accounts. For 1874 the road construction account is a little more than a million, and the new equipment \$700,000, and the items that are given indicate that these additions to the property were obtained at a moderate cost. Most of this work was done on old contracts, and may not have been immediately indispensable; but these old contracts are now closed, and the company now will not be compelled to make improvements faster than it needs them.

A summary statement of the last year's operations is: a decrease of 11.6 per cent. in gross earnings, a decrease of 18.8 per cent. in working expenses, resulting in an increase of 5.7 per cent. in net earnings. There was an increase in the fixed charges—interest, losses and guaranteed dividends—amounting to about \$28,000 more than the increase in net earnings, so that the results of the last two years to the proprietors are substantially the same.

The gross earnings were much smaller (11.6 per cent.) than in 1873, and 3½ per cent. less than they were in 1872 on a smaller mileage, but the net earnings were larger than ever before, and enough larger to cover the whole increase in interest owing to the addition to the bonded debt, though most of this new bonded debt represented a floating debt which existed the previous year, so that the company can hardly be said to have incurred any new obligations during the year. The net earnings in 1874 were very nearly six millions; the annual interest charge is now a little less than \$2,800,000, and the rentals and guaranteed dividends \$120,000, besides some rentals dependent on the amount of gross earnings. A little more than \$3,000,000 pays the fixed charges, however. As the stock is fifty millions, every million earned net above three millions is sufficient for a two per cent. dividend, and last year's net surplus was sufficient for a six per cent. dividend. It will thus require larger earnings than those of 1874 to exceed this rate, and net earnings of \$7,000,000 to enable the company to resume the old rate of 8 per cent. Probably such net earnings will not be reached without a large increase of traffic, for though the rates received were lower in 1874 than ever before, they have been lower still since, and the general tendency is downward. The road, however, is now in condition to carry a much larger traffic economically. An addition of about one-sixth at last year's rates would be sufficient to restore the old rate of dividend. Such an addition is not to be expected this year, according to present appearances; but it is sure to come in time, and then if the rates are not reduced in proportion, better profits may be divided. The present current price of the company's stock is something less than what indicates an expectation of regular 6 per cent. dividends.

The tables in this report have been admirably elaborated by the care of M. C. P. Leland, the Auditor, and we find in them ready made to our hand a great many statements of facts which we usually have to elaborate painfully from the figures given in most reports—if, indeed, those figures form a sufficient basis for any valuable deductions.

We learn from them that a large part of the great decrease in expenses is due to a decrease in train mileage, which is much greater than the decrease in passenger and tonnage mileage. For instance, the traffic for the past two years compares as follows:

	1874.	1873.	Decrease.	P. c.
Passenger mileage.....	173,224,572	179,363,173	6,138,601	3.4
Tonnage mileage.....	999,342,081	1,063,927,189	64,585,108	5.2
Total.....	1,172,566,653	1,233,290,362	60,723,709	5.0

And the train mileage as follows:

	1874.	1873.	Decrease.	P. c.
Passenger.....	2,520,574	2,952,928	432,354	14.6
Freight.....	2,490,510	8,026,320	5,535,810	19.1
Total.....	5,011,084	10,979,248	5,968,164	17.9

Thus a decrease of about 18 per cent. in train mileage was made when the traffic fell off but 5 per cent. The profit per train mile was much larger in 1874 than in 1873, as seen below:

	Receipt.	Expense.	Profit.
Freight train mile.....	\$1.83	\$1.19	\$0.64
Passenger train mile.....	1.77	1.35	0.42
	2.02	1.81	0.21
	1.74	1.29	0.45

This is worthy of note. By a reduction of trains chiefly due to an increase of the average train load, combined with the economies in expenditures, the profit per train

mile was increased no less than 25 per cent. for freight trains and 40 per cent. for passenger trains—certainly an enormous difference. The average train load for the two years was:

	1874.	1873.	Increase.	P. c.
Passengers.....	68.7	60.7	8.0	13.3
Tons of freight.....	159.4	136.0	23.4	17.2

Such increases in average loads are enough to account for a large part of the earnings in expenses.

The receipts per unit of traffic show a continuation of the downward tendency at an accelerated rate, as follows:

	Receipt.	Cost.	Profit.
Per ton per mile, 1874.....	1.180 cts.	0.767 ct.	0.413 ct.
" " " 1873.....	1.335 "	0.946 "	0.389 "
" " " 1872.....	1.374 "	0.920 "	0.454 "
Per pass. " " 1874.....	2.45 "	1.59 1/2 cts.	0.855 "
" " " 1873.....	2.55 "	1.81 "	0.74 "
" " " 1872.....	2.60 "	1.84 "	0.76 "

Here we see the average rate for freight to have been 11 per cent. less than in 1873, but the average profit 64 per cent. greater; and the average rate per passenger 4 per cent. less, the average profit 16 per cent. greater.

The decrease in traffic is shown to be mainly due to the lessened demand in the Northwest for goods from the East, and not from a decreased production in the Northwest. The decrease in the tonnage-mileage of east-bound freight was but 2.2 per cent., while that in west-bound freight was 13.3 per cent., and there was an increase, amounting to 7.8 per cent., in the number of tons shipped eastward. The preponderance of tonnage eastward has increased, as it is likely to do hereafter unless the water route is improved and cheapened. It amounted for 1874 to 75.4 per cent. of the total tonnage mileage.

The growth of traffic as shown by the total tonnage mileage, the proportion of it moved eastward, and the rate per ton per mile are shown below for five years:

	Total tonnage mileage.	Per cent. moved eastward.	Av. rate per ton per mile.	Av. mileage worked.
1870.....	574,035,571	71.8	1.504 cts.	1,013
1871.....	733,870,696	71.7	1.591 cts.	1,013
1872.....	924,844,140	72.2	1.374 cts.	1,061
1873.....	1,063,927,189	73.1	1.335 cts.	1,154
1874.....	999,342,081	75.4	1.180 cts.	1,175

Thus the growth of traffic is uninterrupted until last year, and is very much greater than the increase in mileage. It is almost independent of it, indeed, for the new mileage cannot have added appreciably to the amount of traffic. And this growth in traffic, beginning with 1870, has been much greater than the increase in capital, large as has been the latter. The increase in earnings, of course, has been much less rapid, owing to the large reductions in rates, amounting to 23 per cent. in freight, and 6 per cent. in passenger charges within the five years. Passenger earnings, indeed, have increased very little within that period, the increase in movement having been but 8 per cent.; the freight earnings, however, have grown largely. The capital account, freight and passenger traffic, earnings, expenses and net earnings from 1870, the first year of the consolidated company, and 1874 are compared below:

	1870.	1874.	Increase.	P. c.
Stock.....	\$35,000,000	\$50,000,000	\$15,000,000	42.9
Bonds.....	22,339,000	39,095,000	16,756,000	75.3
Stock and bonds.....	\$57,339,000	\$89,095,000	\$31,756,000	55.5
Passenger mileage.....	160,500,114	173,224,572	12,724,458	8.0
Tonnage mileage.....	874,035,571	999,342,081	125,306,510	14.1
Total mileage.....	734,535,685	1,172,566,653	438,030,968	59.6
Passenger earnings.....	\$4,192,960	\$4,249,092	\$56,032	1.4
Freight earnings.....	8,745,126	11,918,350	3,173,224	36.3
*Total earnings.....	\$12,938,086	\$16,167,442	\$3,229,356	24.9
Working expenses.....	8,308,821	11,152,372	2,843,551	33.3
Net earnings.....	\$5,140,415	\$5,095,750	\$44,665	0.8

* Including miscellaneous.

The statement of the growth of capital does not show the growth of the company's liabilities correctly, but exaggerates it; for in 1870 there was a floating debt of three millions and a half; at the close of 1874, none. If we allow for this, the increase in liabilities has been but 40 per cent. instead of 53½, which is the percentage of increase in stock and bonds. Now, with this increase in capital of 40 per cent., there has been, it is true, an increase in traffic of 60 per cent., but it has brought an increase in earnings of but 27 per cent., while, as the expenses increased at the greater rate of 33 per cent., the increase in net earnings has been but 16½ per cent. Thus the result of the five years may be said, briefly, to be an addition of two-fifths to the capital on which interest and dividends are expected, with an increase of but one-sixth in the sum disposable for such purposes.

Fifteen millions of the new capital was sold to the stockholders for five millions, and these will not be losers if the addition to their dividends represents only interest on the five millions paid. The addition to the debt, on which interest payments are obligatory, has been 21½ per cent. of the whole capital, and absorbs just about the increase in net earnings, leaving for the stock nearly the same sum as remained to it in 1870, before the new issue of \$15,000,000. Taking the past year as a criterion, therefore, the Lake Shore stockholders get no returns from the money they paid for the new shares at the rate of 33½ per cent. of their face value.

The comparison is of course an unfavorable one. In 1870 the road had more work than it could do, and the country generally was extraordinarily prosperous. In 1874, the road, made capable of carrying much more traffic

than it received by costly improvements, had to accept with a decreasing traffic a great decrease in rates, so that with 60 per cent. more traffic than in 1874 there was but one-sixth more profits. In fact, the experience of this road has been much like that of its neighbor and competitor, the Michigan Central. Both have been compelled to add largely to their capacity to accommodate the pressure of traffic. The addition to the traffic has come with the additional facilities, though not to the extent reasonably expected before the financial crisis; and the cost of carrying has been largely reduced by these improvements; but the rates received have fallen so much more than the expenses that the increase of net earnings has not afforded a satisfactory income on the new capital. For that we must wait for more prosperous times.

THE USE OF STEEL FOR LOCOMOTIVE BOILERS.

Engineering of April 2 contains a paper on "The Use of Steel for Ship Building," by N. Barnaby, Chief Naval Architect of the Royal Navy, which was recently read and discussed before the Institution of Naval Architects. This paper is devoted largely to pointing out the uncertainties which attend the use of steel plates in the construction of ships. One of the persons who took part in the discussion expressed not only the experience of English engineers but of American master mechanics as well when he said that "we have all burned our fingers in touching steel." Whether the use of steel for locomotive boilers is increasing or diminishing in this country we have not the necessary information to determine, but we believe most of those who have used steel to any extent will agree with Mr. Barnaby that steel "is a material which we are forced to look at with a very great deal of suspicion indeed," and that the "question we have to put to the steel-makers is, what are our prospects of maintaining a material which we can use without such delicate manipulation and so much fear and trembling? We have gone on for years using iron plates which are a compound of impure irons of different and unknown qualities welded together imperfectly in the rolls. We want a perfectly coherent and definitely carbonized bloom or ingot of which the rolls have only to alter the form in order to make plates with qualities as regular and precise as those of copper and gun-metal, and we look to the manufacturers for it." Now there is no question that steel is a much more homogeneous and "coherent" material than iron; it is in certain conditions very much tougher, and has very much greater tensile strength than iron; but the difficulty is that at present we have no means of determining easily and certainly the exact quality of steel plates. Another difficulty is that some steel is subject to very great changes of quality due to changes of temperature, to which iron is not subject. To quote from the discussion of the paper referred to: "Steel in the form of a needle or of a punch is of a hardness approaching that of the diamond. Steel in the form of a spring is of an elasticity unequalled by any other metal, or any other substance in nature. Then, again, steel in the form of a milled plate is the toughest material in existence—far tougher than copper or wrought iron." Now one side of a steel plate in a locomotive fire-box is exposed at times to a temperature considerably higher than that of melted cast iron, and on the other side to water so cold that it will not burn your hand if placed against the outside plate of the fire-box. The temperature of the inside of the fire-box varies from the degree of heat named down to that of the cold air which rushes in through the open furnace door. It is not remarkable therefore that it is often found that the quality of what were originally very good plates has been changed so that they have become almost as brittle as glass. We are, we believe, only relating what has come under the observation of most master-mechanics who have used steel for locomotive fire-boxes, when we say that it is no uncommon occurrence for a steel plate in a locomotive fire-box to crack with a report like that of a musket, hours after the fire has been drawn, and when the engine is standing quietly in the engine house.

In the paper referred to, Mr. Barnaby quotes as follows from a little book entitled "Etude sur l'Emploi de l'Acier dans les Constructions" (Essay on the use of Steel in Construction), written by M. Barba and published by Baudry, Paris. Speaking of the necessity for care in the manipulation of steel, M. Barba says:

"If it is impossible to work the plates without hammering or without local pressures of great severity, or if the curvature given is considerable, it is necessary to proceed with care and skill to avoid ruptures in the course of the operation. The hammering ought to be done with light blows delivered over as large a surface as possible, and the curvature ought to be produced not at once, but by successive stages. After the work has been done, the plate should be promptly annealed." He says, further:

"One ought to avoid as much as possible partial or rather local heating. When by careful treatment the plate had been brought to its proper form, the annealing process should be

immediately resorted to, and the heat should be applied very gradually, for a sudden augmentation of temperature in a point where the molecular tensions are already exaggerated might cause rupture. When the plate has been regularly heated to a sufficient temperature, and is left to cool slowly, the bad effects of the local disturbances will be destroyed and homogeneity will be re-established.

"The heating furnace used is a Siemens gas furnace, and the plates are generally allowed to cool upon the floor of the shop, taking care that it is dry, and that no part of the hot plate is allowed to come into contact with any rapidly conducting material."

To these remarks Mr. Barnaby says:

"I could not read the sentences I have quoted above without the reflection that a material which needed such care in its treatment would stand but a very poor chance in an ordinary ship-yard. I for one should feel very doubtful about a ship built of it for myself, unless I could see every plate worked."

Now if steel does require the care in working which it is stated that it does, Mr. Barnaby's remarks will apply with quite as much force to its use for locomotive boilers as for ships.

During the discussion it was also stated by Mr. Bessemer "that in punching a hole in a rigid material like steel, the grain of the metal in the neighborhood of that hole is very much disturbed and greatly distressed;" and, "I am told that plates lose in strength in punching about one-third, and that on annealing the whole of that one-third is restored."

Attention has frequently been called to the importance of annealing steel plates after they have been punched, but the practice of doing so is by no means common among master mechanics in this country. It is, perhaps, not easy to give a satisfactory or correct reason for this effect of annealing. It doubtless is very much the same as that of annealing car wheels. The act of punching undoubtedly subjects the particles or fibres of metal in the immediate vicinity of the holes to very great strains, and leaves them in a very disheveled or disturbed condition, in which probably some of them are in a state of very great tension and therefore would be easily broken by a little additional strain. If, however, the metal is softened by heating, the fibres relax and on cooling the strains distribute themselves uniformly. Be this as it may, it was generally recognized during the discussion from which we have quoted that steel plates should be carefully annealed, after punching, and also after they are bent into any complicated forms, and also that it requires very much greater care in working it than iron plates. There was, however, very little said regarding the fact to which we have called attention, that steel plates are liable to changes of quality to which iron is not subject, owing to sudden changes in temperature, to which latter it must necessarily be exposed in locomotive boilers. Now we do not say that this fact is sufficient to prevent its use for the construction of boilers, but what we want to point out is that it is one of the facts in the use of steel which should be distinctly recognized, both in working the material and in working the boilers, and probably to some extent in the design of the latter. It is of course true that very great improvements have been made in the manufacture of steel boiler plates, and that the material now furnished by manufacturers is of a very much more reliable quality than that which was furnished, say ten or twelve years ago. We know of one of the early steel plates which was so brittle that it broke when it was unloaded and thrown from a car on the wooden platform at a station. But notwithstanding all the improvement which has been made in the manufacture of steel, it is still true that boiler plates are not uniform in quality, and parties who buy steel plates have no means of knowing whether they are uniform or not. It is also true that even if steel plates are subjected to very careful and rigid tests, and their quality, as far as it can be, is thoroughly determined by such tests, there is no means of knowing how long they may retain that quality after they are put into use in a boiler. It may, before it is put into the boiler, be tougher than the best iron that can be made and of much greater strength; but by careless workmanship or by ignorant attendants it may be very seriously injured if suddenly heated or cooled. In fact, even with the most careful usage, the quality of the plates in a boiler may change so that they will fail suddenly and without warning. It is, however, true that although iron is not so liable to changes of quality by heat and cold as steel, yet the fact that it is not homogeneous, that its strength is very much less, and that only the best qualities approach anywhere near to steel when in its most favorable condition for toughness, certainly leaves immense advantages in favor of steel plates for boilers; but we believe that nearly all master mechanics will agree that the problem which they want solved, as in the discussion Mr. Barnaby wanted it solved, "is to have a material he can depend upon in every way as he can depend upon the best iron; that is, that it may be roughly treated without being liable to fracture like glass, and which will meet all the conditions of the tests specified." We will add that what is also needed is some means of knowing that the material offered has those qualities, and that it will retain them.

A Bit of Philology.

A writer in *The Brotherhood of Locomotive Engineers' Journal* inquires of the editor of that publication why the editor of the *Railroad Gazette* "in all his writings in relation to the rail-

road engineer, speaks of him as the "runner." As the Editor of the *Journal* is not supposed to know the reasons which induce the Editor of the *Railroad Gazette* to use one word rather than another, we "rise to explain."

We use the word "runner," 1st, because it designates accurately the persons spoken of, as the word "run" is commonly used. If a man who runs a locomotive is not a "locomotive runner," what is he? 2d. Because a very large proportion of the men engaged in that employment speak of themselves as "runners." In proof of this, we have only to refer to page 253 of the number of the *Journal* in which appeared the letter from which we have quoted, and we find another correspondent apparently one of the craft, employing the word "runner," with the use of which the correspondent from Kansas City finds fault. 3d. The term "locomotive runner" designates accurately and unmistakably the person meant, whereas "engineer" does not, but may mean a civil engineer, a mechanical, or, as has lately been the fashion to call the latter "dynamical" engineer, a military or a mining engineer.

The correspondent who complains of our use of language seems to be apprehensive that we may introduce the term "engine driver," which we know is offensive to Americans who run locomotives. With the existing usage in this country, it would, we think, be absurd to use that term, because no one, or at least very few persons, ever speak of "driving" a locomotive.

The same thing may be said, of the word "stoker." Although the use of the word "stoke" is the sense of stirring a fire is correct, it is very rarely used here, and therefore "stoker" forms no part of the "American language." Therefore we shall stick to fireman. If, however, men engaged in that employment would rather have a high-sounding title, they might be called "calorificians," which would be both legitimately derived and scientific.

The object of names of employments is to distinguish them from each other. It is true that the term "engineer" has a very wide signification, but generally we may say that it belongs to men who design and construct structures, and as it is desirable to distinguish between this class of men and those who work the engines or other structures so made, we make our language more precise and significant by giving the latter a different name.

Usage is not settled in this country, as yet, as it is abroad. The English nearly always call the man who works an engine the "engine driver," but they confound the term "engineer" in another way by applying it to a class of men whom we would call "machinists;" the Germans call the man who runs a locomotive the locomotive "conductor" or "commander" (*Locomotive-fuehrer*); while him who runs a stationary engine they call an "engine tender" (*Maschinen waerter*). The French call this man a "mechanician" (*mechanicien*).

A rose, doubtless, would smell as sweet by any other name, but it is desirable that that other name should not be "violet," "sunflower," or any other term by which we designate some other flower. The notion that one term is less honorable than another does not deserve consideration. If the name conveys a clear idea of the occupation, it will be precisely as honorable as the occupation, and in the case of the business of running a locomotive, whether the man be called "engineer," "engine-man," "runner," "driver," or what not, no pretentiousness of name is needed to make it honorable.

Conventions.

The following conventions of engineering and railroad societies will be held within the next few weeks:

MASTER MECHANICS' ASSOCIATION.

The eighth annual convention of the American Railway Master Mechanics' Association will be held at the Cooper Institute in New York, beginning Tuesday, May 11. The St. Nicholas Hotel has been selected as headquarters for members. The following are the subjects selected for discussion and the committees appointed to report on them:

1. *The best material, construction, operation and management of locomotive boilers.*—J. M. Boon, of the Pittsburgh, Fort Wayne & Chicago; J. A. Jackman, of the Chicago & Alton; and G. W. Cushing, of Chicago.

2. *Purification of feed water.*—The Committee to report what methods, up to this time, have been most approved for the improvement of feed-water by chemical and mechanical means, and for the prevention of incrustation: Horace A. Towne, of the Northern Pacific Railroad; Coleman Sellers, of Philadelphia; Harry Elliott, late of the Ohio & Mississippi; Wm. Wilson, of the Chicago, Burlington & Quincy; and H. V. Faries, of the Atchison, Topeka & Santa Fe Railroad.

3. *Locomotive tests.*—The Committee to request members to make experimental tests to show the performances of locomotives, and to report the results to the Association: M. N. Forney, of the *Railroad Gazette*; Professor R. H. Thurston, of the Stevens Institute of Technology, and W. Woodcock, of the Central Railroad of New Jersey.

4. *Locomotive construction.*—This Committee to report, as far as possible, all new methods of construction which have been adopted by members during the past and for the coming year. J. Sedgley of the Lake Shore & Michigan Southern, L. S. Young, of the Cleveland, Columbus, Cincinnati & Indianapolis, and Howard Fry, of the Philadelphia & Erie Railroad.

5. *The best system of signals for operating railroads.*—This subject to include train head signals, train tail and side signals, road or station switch signals, and appliances for indicating the speed of trains. John Thompson, of the Eastern, A. B. Underhill, of the Boston & Albany, and John Orton, of the Great Western Railway of Canada.

Locomotive and tender wheels.—This Committee is to report breakages of wheels and tires, removals of tires, and causes of breakage or removal, and to report on the different methods of construction and of manufacturing various kinds of engine and tender wheels.

J. N. Lauder, of the Northern of New Hampshire; G. W.

Stratton, of the Pennsylvania, and S. A. Hodgman, of the Philadelphia, Wilmington & Baltimore Railroad.

7. *Construction and improvements of continuous train brakes during the ensuing [past] year and their application to cars and locomotives.* Chas. R. Peddle, of the St. Louis, Vandalia & Terre Haute; F. Gould, late of the Missouri, Kansas & Texas, and George Richards, of the Boston & Providence Railroad.

8. *Lubricants for locomotives.*—F. B. Miles, of Philadelphia; H. D. Garrett, of the Pennsylvania, and Edwin Garfield, of the Hartford, Providence & Fishkill Railroad.

10. *Standard Axles.*—M. N. Forney, of the Railroad Gazette; Coleman Sellers, of Philadelphia, and Gordon H. Nott, of Boston.

11. *Broad and narrow-gauge rolling stock.*—W. S. Hudson, of Paterson, N. J.; H. N. Sprague, of Pittsburgh, and H. G. Brooks, of Dunkirk, N. Y.

12. *Machinery for supplying water to tanks.*—The Committee to give description of engine, windmill or device, with cost of working same. J. L. White, of the Evansville & Crawfordville; J. H. Flynn, of the Western & Atlantic, and Howard Fry, of the Philadelphia & Erie Railroad.

Mechanical laboratory.—The Committee to take into consideration the propriety of establishing a mechanical laboratory: W. A. Robinson, of the Great Western of Canada; Reuben Wells, of the Jeffersonville, Madison & Indianapolis; J. M. Boon, of the Pittsburgh, Fort Wayne & Chicago; N. E. Chapman, of the Cleveland & Pittsburgh, and H. M. Britton, of the White Water Valley Railroad.

The Committee of Arrangements for the Convention this year are H. G. Brooks, of Dunkirk, W. M. Strong, of the New York & Harlem, and J. Van Vechten, of the Erie Railway.

MASTER CAR-BUILDERS' ASSOCIATION.

This association will hold its annual convention on Wednesday, June 9. The hotel selected for the accommodation of members is the Grand Central, No. 671 Broadway.

As there are several hotels of similar name in New York, strangers in the city should be careful to name the Grand Central, as there are the Grand Hotel and Grand Union besides.

AMERICAN SOCIETY OF CIVIL ENGINEERS.

This Society will hold its Seventh Annual Convention in Pittsburgh on the 8th, 9th and 10th of June.

The second annual meeting of the Railroad Purchasing Agents' Association, will be held in St. Louis, May 12, at the Lindell Hotel. The Association has issued the following circular:

"In view of the fact that our Association is essentially for the benefit of our respective roads, and as the mutual interchange of information and ideas at our first meeting, notwithstanding much of our time was taken up in organizing, has resulted so very satisfactorily, it is hoped there will be, at our second annual convention, a full attendance and important action.

"Our very harmonious initiatory meeting at the Grand Pacific, Chicago, June 17, 1874, and the fact that only one unfavorable response has yet been received from any source, induces the belief that, at the meeting in St. Louis on Wednesday, May 12, 1875, much good will be accomplished."

The officers of this Association are G. C. Breed, Louisville & Nashville and Great Southern, President; Wm. S. Cuddy, St. Louis, Iron Mountain & Southern, First Vice-President; J. T. Sterling, Toledo, Wabash & Western, Second Vice-President; John B. Galloway, Memphis & Charleston, Secretary and Treasurer; J. W. Morse, Indianapolis & St. Louis, E. C. Becker, St. Paul & Pacific, E. V. Cherry, Indianapolis, Cincinnati & Lafayette, Executive Committee. The objects of the Association are declared to be "the interests of the railroads represented by its members, promoted by mutual acquaintance and counsel." Any Purchasing Agent of any railroad in the United States or Canada may become a member by signing the rules and regulations.

Record of New Railroad Construction.

This number of the Railroad Gazette has information of the laying of track on new railroads as follows:

New Jersey & New York.—The New City Branch is completed from Nanuet northward 5 miles to New City, N. Y.

Lake View & Collamer.—This light passenger railroad is completed from Cleveland eastward 7 miles to Euclid, Ohio.

This is a total of 12 miles of new railroad, making 220 miles completed in the United States in 1875, against 375 miles reported for the same time in 1874 and 654 in 1873.

OUR GRAIN EXPORTS continue to exercise the minds of many writers in the newspapers, and those whose memory does not go more than a year back (and they are more numerous than we might think) have drawn some very unsatisfactory conclusions. The British Board of Trade returns for the first quarter of the year enable us to see pretty clearly how we have met the world's competition; and the result seems to us altogether satisfactory. Great Britain this year is the only considerable importer, and its imports, owing to a good home crop, are much lighter than usual, and in wheat about 30 per cent. less than for the first quarter of 1874, and 27 per cent. less than in 1873. But the proportion supplied by the United States is nearly as great this year as last, and very much greater than in 1873. For the three years in their order the proportions of the wheat imports of Great Britain supplied by the United States were: 1873, 34.5 per cent.; 1874, 62.3 per cent.; 1875, 60.3 per cent. With flour we have not kept quite so near the proportion of last year, but have exceeded that of 1873 still further, the proportions having been 14.3, 51.5, and 37 per cent. respectively. It is true that there has been a falling off in our exports of other grain (chiefly corn, which is the only other grain that we export largely), but this has not been because of the competitions of other countries, but because we had a better market for it at home than any foreign country could offer, as is always the case when our crop is short and there are good wheat crops in Europe. Foreign countries will go without corn entirely rather than pay a high price for it; and our crop this year, what there was of it, has been chiefly turned into hogs at a very handsome profit. Altogether, the Board of Trade returns confirm the opinion we have before expressed that the United States has this year successfully met an unusual combination

of circumstances tending to prevent its exporting grain to Europe.

CALIFORNIA IMMIGRATION is unprecedentedly large this Spring, or, if a precedent is to be found, it must be looked for before the days of the Pacific railroads, within a few years after the discovery of gold. The returns show that the arrivals were about 11,500 more than the departures during the first quarter of 1875, while for the corresponding period of last year the excess of arrivals was but 5,500; in 1873, 5,800, and in 1872 only 900. The arrivals by rail were 11,646 this year, against 7,025 last, and it is this chiefly that has stimulated the earnings of the Pacific railroads so greatly, there having been an increase in departures also. The largest part of these immigrants are poor or moderately well-to-do people, who have found times so dull lately in the Northwest or the East that they have gone to the Pacific to try to better themselves, most of them by farming. The influx is so great that the Californians are a little frightened by it, fearing lest the immigrants may find it hard to make their way when they come in such numbers. Such an immigration is of the greatest possible advantage to the Pacific railroads, whose traffic has been greatly limited by the paucity of the population of the Pacific coast, the whole of which is probably not greater than that of the city of Philadelphia, and hitherto it has not grown rapidly.

THE CANADIAN CANALS, which the Government of Canada is now engaged in improving so as to give a depth of 12 feet for vessels from Lake Erie to Montreal, by a recent resolution of the Government are to be prepared during the execution of the present contracts for a future deepening to fourteen feet, which is as great as that of most Western lake harbors. The change will involve some additional constructions of harbors and guard locks at this time, which will make the future deepening a comparatively simple matter. There is certainly much more promise in the improvements of these canals than in any possible Pacific railroads, in Canada or out of it, and a small fraction of the cost of the proposed Canada Pacific would complete the work, which may have an amazing effect on Canadian commerce.

THE PENNSYLVANIA RAILROAD DIVIDEND for the last half-year is at the rate of 4 per cent., having been 5 per cent. without interruption heretofore since 1868, when also it was 4 per cent. for both half-years. This is the result, probably, of two causes: lower prices for carrying than last year, owing to the war of competition, and a smaller amount of traffic, owing chiefly to the lighter grain movement. It is possible, however, that there has been no decrease of traffic on this road, as it depends less on grain than the other trunk lines. The price of the stock in Philadelphia has fallen from 55 to 51 since the announcement of the dividend.

General Railroad News.

ELECTIONS AND APPOINTMENTS.

Florida Central.—At the annual meeting in Jacksonville, Fla., April 14, the following directors were chosen: Edward Lewis, R. H. Gamble, R. Walker, P. Houston, E. M. Engle, C. E. Dyke, Sr., B. Williams, C. A. Cowling, G. W. Bretton.

Attleboro Branch.—At the annual meeting in North Attleboro, Mass., April 14, the following directors were chosen: H. F. Burrows, J. B. Bronson, H. N. Daggett, Stephen Richardson, Attleboro, Mass.; A. A. Folsom, Boston. The board elected H. F. Burrows, President; J. B. Bronson, Clerk; H. N. Daggett, Treasurer.

Detroit, Lansing & Lake Michigan.—It is reported that Mr. J. B. Muliken, now of the Peninsula Division of the Chicago & Northwestern, is to succeed Mr. A. H. Reese as General Superintendent of this road.

New Jersey & New York.—The new board of directors has chosen David P. Patterson, President; A. S. Whiton, Vice-President; M. Lockwood, Treasurer.

Chesapeake & Ohio.—Mr. M. S. Dunn has been appointed General Superintendent, in place of Thomas Bodamead, resigned.

Midland Pacific.—Mr. S. W. Chapman has been appointed General Freight and Ticket Agent, in place of M. K. Fleming, resigned.

Macon & Brunswick.—John A. Grant has been appointed Superintendent, in place of Mr. J. W. Greene, appointed Receiver of the Vicksburg, Shreveport & Texas.

Vicksburg, Shreveport & Texas.—The Receiver, Mr. J. W. Greene, has appointed James H. Milling Cashier; J. H. Reinbold, Roadmaster; C. H. Tull, Master Mechanic.

Pennsylvania Company.—The following appointments have been made in the reorganization of the Union Line Bureau, under charge of the Second Vice-President, Mr. Wm. Thaw: H. H. Houston, Eastern Manager, Philadelphia; D. S. Gray, Western Manager, Columbus, O.; George B. Edwards, Superintendent; Wm. I. Miller, Supply and Equipment Agent; John T. Donistion, Auditor; Joseph H. Irwin, First Assistant Auditor; Wm. E. Lawrence, Second Assistant Auditor; Andrew Howard, Cashier. Offices at Pittsburgh, Pa.

Hannibal & St. Joseph.—The executive officers are now as follows: H. H. Courtright, General Superintendent and General Freight Agent, Hannibal, Mo.; P. W. Drew, Assistant General Superintendent, Hannibal, Mo.; T. Penfield, General Passenger and Ticket Agent, Hannibal, Mo.; T. H. Tibbets, Assistant General Freight Agent, Hannibal, Mo.; R. Drane, Land Commissioner, Hannibal, Mo.; John Mackenzie, Superintendent Machinery, Hannibal, Mo.; C. F. Bailey, Eastern Passenger and Freight Agent, No. 345 Broadway, New York; J. A. S. Reed, General Travelling Agent, No. 59 Clark street, Chicago; Geo. N. Clayton, Western Travelling Agent, Atchison, Kan.; Henry Starring, General Baggage Agent, Chicago.

Roane Iron Company.—At the annual meeting in Chattanooga, April 21, the following were elected officers: W. P. Rathburn, President; H. S. Chamberlain, Vice-President; S. B. Strang, Assistant Manager; Willard Abbott, Secretary and Treasurer.

Louisville, New Albany & St. Louis.—The board has elected Col. Horace Scott President; Augustus Bradley, Vice-President; George Lyman, Secretary. Mr. Bradley has been President some time.

Harlem River & Portchester.—At the annual meeting recently the following directors were chosen: E. M. Reed, Wilson G. Hunt, A. R. Van Nest, E. H. Trowbridge, John Hunter, Wm. E. Barnett, John T. Shelton, G. N. Miller, Wm. D. Bishop, G. B.

Carhart, E. J. Sanford, Charles M. Pond, Nathaniel Wheeler. The road is leased to the New York, New Haven & Hartford Company.

Illinois Midland.—At the annual meeting in Decatur, Ill., April 28, the following directors were chosen: R. G. Hervey, D. Hitchcock, P. Campbell, John Shryer, Terre Haute, Ill.; H. Van Sealar, Paris, Ill.; J. J. Pemberton, Oakland, Ill.; W. T. Sylvester, Decatur, Ill.; C. F. Emery, Maroa, Ill.; A. U. Dilla, W. S. Dunham, Atlanta, Ill.; H. G. Anderson, Peoria, Ill. The board elected R. G. Hervey President, and D. Hitchcock, Vice-President, and authorized the President to appoint the other officers.

Texas Western.—Mr. James Simcock has been appointed Road Master, and Mr. Alexander McCall has been placed in charge of the rolling stock and machinery. Mr. McCall comes from the Missouri Pacific and Mr. Simcock was for many years in the employ of Mr. Brassey, the famous English contractor.

Texas & Pacific.—Mr. T. D. Maurer has been appointed Auditor in place of Mr. Wm. Mahl, whose return to the Louisville, Cincinnati & Lexington was noted some time since. Mr. Wm. H. Abrams, the new Land Commissioner, has been for some time Assistant Commissioner.

Atlantic & Pacific Telegraph.—The new board of trustees has elected Gen. T. T. Eckert, President; W. J. Syme, Vice-President; E. D. L. Sweet, Second Vice-President; Alfred Nelson, Secretary and Treasurer.

Tennessee & Pacific.—At the annual meeting in Nashville, Tenn., April 28, the following directors were chosen: George Maney, John Kirkman, A. J. Porter, E. H. Childress, Samuel Watkins, Nashville, Tenn.; John Crutcher, Mt. Juliet, Tenn.; J. S. McClain, G. L. Robinson, J. W. Phillips, Lebanon, Tenn.; John A. Tite, G. H. Gloss, T. A. Waters, Carthage, Tenn. The only new director is Mr. Childress who succeeds Judge Ferris, an attempt to change the management having been unsuccessful.

Lake Shore & Michigan Southern.—At the annual meeting in Cleveland, O., May 5, the following directors were chosen: Cornelius Vanderbilt, Wm. H. Vanderbilt, Augustus Schell, Samuel F. Barger, R. L. Crawford, Henry B. Payne, Amasa Stone, John E. Burrill, Wm. L. Scott, Charles M. Reed, J. C. Spencer, Albert Keep, J. Condit Smith. The changes from last year are the election of Messrs. Crawford, Burrill, Spencer and Smith, in place of Stillman Witt (deceased), Eugene N. Robinson, Wm. Williams and John A. Tracy (deceased).

St. Joseph & St. Louis.—At the annual meeting in St. Louis, April 29, the following directors were chosen: S. Angier Chace, John R. Lionberger, Chas. W. Hassler, N. E. Gouldy, A. Kountze, W. F. Nisbet, Wm. Mason. At a subsequent meeting of the board Mr. Hassler resigned, and D. G. Floyd was chosen in his place.

Catawissa.—At the annual meeting in Philadelphia, May 3, M. P. Hutchinson was chosen President and I. V. Williamson, F. K. Shipper, E. Shannon, Emmor Weaver, J. C. Harris, John S. Graham, directors. The road is leased to the Philadelphia & Reading.

Elmira & Williamsport.—At the annual meeting in Philadelphia, May 3, Thomas Kimber, Jr., was chosen President with the following board of managers: Wm. D. Lewis, A. S. Diven, Wm. C. Longstreth, T. Neilson, W. B. Fisher, L. P. Geiger. The board elected W. C. Longstreth Treasurer and Lewis P. Geiger Secretary. The road is leased to the Northern Central Company.

Port Royal.—Mr. D. C. Wilson, of Beaufort, S. C., has been chosen President, in place of Col. T. P. Branch, resigned. It is understood that the change has been made at the instance of the bondholders.

Mobile & Ohio.—The new board has elected Wm. Butler Duncan, President; T. Haskins Du Puy, Vice-President; A. L. Willoughby, Treasurer; C. A. Wetten, Auditor; G. N. Stewart, Attorney; Abraham Murdock, Commissioner of Lands and Immigration. The only change is the choice of Mr. Du Puy in place of Mr. A. L. Walker.

Jefferson City & Southwestern.—The first board of directors is as follows: Chas. H. Powell, Paris, Ill.; Egbert B. McClure, Mattoon, Ill.; Samuel Woodward, John Boyle, Milo S. Cartter, Lewis B. Jones and Horace W. Comstock, of St. Louis.

Rome, Watertown & Ogdensburg.—Mr. E. A. Van Horn has been appointed Superintendent of the Lake Ontario Division, including the Oswego & Rome road.

PERSONAL.

—Oliver Charlick, for many years President and, we may say, sole dictator of the Long Island Railroad, died at his residence at Lawn View, near Flushing, Long Island, on the morning of April 30, after an illness of some months. Mr. Charlick was probably one of the most unpopular men that ever managed a railroad (which is saying a great deal), but he was compelled to do some unpopular things when he took charge, to make the road successful, and his proper disregard of ill will caused by his doing his duty probably led him to disregard complaints of all kinds thereafter more than he should. Moreover his early life and training were not calculated to develop a courteous gentleman. He was the son of a retail liquor dealer in the lower part of New York, and his first distinction was in the politics of the down-town wards. George Law became interested in him and started him in his career as a business man. He took the Long Island Railroad when it had failed, and found, it is said, that about half of its passengers always rode on free passes, which he immediately abolished, thus making through traffic, forming part of the quickest route from New York to Boston, but with the completion of the all-rail route north of the Sound, this business came almost to an end, and the road had to be supported, if supported at all, by the traffic of Long Island, which is small and not thickly peopled except at its western end, and with ocean ports hardly more than ten miles distant from any point in it. It was indispensable that the road should be worked in the cheapest possible manner, and this doubtless accounts for much of what was generally considered niggardliness by those who thought that the Long Island road should offer as good accommodations as any other. At the last election (only a few weeks ago), Charlick was a candidate for re-election, though disabled by severe illness, which has now resulted fatally; but the opposition to him organized and defeated him, doubtless feeling, very properly, that the company's manager should show some consideration to its patrons, even if he could not grant all or any of their requests.

—The Indianapolis Journal says: "For some months past rumors have been in circulation among business and railway circles in this city concerning the relations between the Cleveland, Columbus, Cincinnati & Indianapolis Railway Company and Mr. Oscar Townsend, formerly President of that corporation. These stories, which, if true, would affect the integrity of Mr. Townsend, are now at rest by an official resolution of that company, written and signed in proper form, declaring that the company, after careful examination of the facts, has no claim against Mr. Townsend. Mr. J. H. Devereux also certifies in his individual capacity that he has never charged, or intended to charge, Mr. Townsend with any criminal act committed while President of the Cleveland, Columbus, Cincinnati & Indianapolis Railway Company. This should, and doubtless will, dispel the rumors that have been so generally circulated in relation to this matter, and relieve Mr. Townsend from whatever damage or con-

barragement he may have suffered in consequence of them. It is a fortunate and satisfactory result, in which all parties concerned have cause to be pleased. The friends of Mr. Townsend and the Indianapolis parties who were reported to have been associated with him, will be glad to learn of this retraction on the part of the company, while, on the contrary, their enemies must feel chagrined over the action of the company and Mr. Devereux as its President."

—Hon. Thomas M. Edwards, the first President of the Chesapeake Railroad Company and a prominent lawyer, died in Keene, N. H., May 2.

—Don Alonzo Cushman, a well-known New York merchant, who was at one time for several years a director of the Erie Railway Company, died in New York May 1.

—Hon. J. W. Throckmorton, late Land Commissioner of the Texas & Pacific, is a member of Congress elect from the Third Texas District, and has resigned his position with the company in consequence.

—The Detroit Free Press says that A. H. Reese, General Superintendent of the Detroit, Lansing & Lake Michigan Railroad, has resigned, in order to engage in the lumber business; but the Post denies this statement.

—Mr. Stillman Witt, a prominent and wealthy citizen of Cleveland, O., and a partner of Mr. Amasa Stone, died at sea on board the steamer Suevia, recently, while on his way to Europe. He was a director in the Lake Shore & Michigan Southern and the Cleveland, Columbus, Cincinnati & Indianapolis companies, and was largely interested in other railroad enterprises.

TRAFFIC AND EARNINGS.

Flour and Grain Movement.

For the week ending April 24 receipts and shipments, in barrels for flour and in bushels for grain, are reported as follows:

Flour:	1875.	1874.	Inc. or Dec.	P. c.
Lake ports receipts.....	108,402	124,872	Dec. 16,470	13.1
" " shipments.....	106,600	116,049	" 9,449	8.1
Atlantic ports receipts.....	229,623	202,675	Inc. 26,948	13.3
Wheat:				
Lake ports receipts.....	784,099	1,094,186	Dec. 310,087	30.7
" " shipments.....	327,948	2,357,898	" 2,029,950	86.1
Atlantic ports receipts.....	608,484	755,851	" 150,367	19.9
Corn:				
Lake ports receipts.....	1,276,873	1,450,490	" 173,617	12.0
" " shipments.....	754,178	1,255,337	" 501,159	40.0
Atlantic ports receipts.....	880,167	1,385,497	" 505,330	36.3
Grain of all kinds:				
Lake ports receipts.....	2,667,309	3,144,579	" 477,270	15.1
" " shipments.....	1,280,426	4,038,359	" 2,757,933	68.2
Atlantic ports receipts.....	1,737,097	2,519,729	" 782,632	31.1

Exports from Oregon for the three months ending March 31, were 12 cargoes, including 495,500 bushels of wheat and 32,200 barrels of flour. Several vessels were loading at the close of the quarter.

Grain receipts at Baltimore for the month of April show an increase of 49 per cent. in wheat, of 6 per cent. in corn and a decrease of 34 per cent. in oats and 28 per cent. in rye as compared with the corresponding month of last year. The bushels of all kinds of grain received were 1,568,699 in April, 1874, and 1,737,359 in 1875, showing an increase of 168,660 bushels, or 10.3 per cent., which, in view of the general decrease in the movement, is very creditable.

For the week ending May 1 Chicago receipts were 6½ per cent. greater in flour, 23 per cent. less in wheat, 38 per cent. greater in corn, and 33 per cent. less in oats than in 1874. The receipts of grain of all kinds were 1,872,210 bushels in 1875 and 1,621,271 in 1874; increase 250,939 bushels, or 15½ per cent.

Opening of Navigation.

A telegram from Mackinaw, dated the 2d, announced that the straits were open. Last year the first vessel passed through April 30, we believe. Probably there never was less anxiety for the opening of the season, as the current rates leave no or next to no margin for profit. Wheat is taken from Chicago to Buffalo for four cents a bushel, and corn for less.

The New York canals are to be opened May 18—much later than usual. Rail rates from Buffalo to New York are so low that there will be little or no profit to boats in carrying at lower rates.

The charge for transportation, exclusive of all terminal charges is now but 12 cents per bushel from Chicago to Buffalo by a route 1,400 miles long—0.26 cent per ton per mile.

Railroad Earnings.

Earnings have been reported by the following companies:

Month of April:	1875.	1874.	Inc. or Dec.	P. c.
Union Pacific.....	\$1,082,963	\$742,847	Inc. \$340,106	43%
Month of March:				
St. Paul & Sioux City, and Sioux City & St. Paul.....	42,551	54,660	Dec. 12,109	22½
Third week in April:				
Denver & Rio Grande.....	8,005	6,363	Inc. 1,642	25½
St. Louis, Iron Mt. & So.....	65,400	55,918	Inc. 9,482	13½
Week ending April 9:				
Great Western of Canada.....	\$210,093	\$206,491	Dec. 27,398	27%
Week ending April 10:				
Grand Trunk.....	41,300	41,000	Inc. 300	0¾

Coal Movement.

Week ending April 24:	1875.	1874.	Inc. or Dec.	P. c.
Anthracite.....	273,898	441,495	Dec. 167,597	38
Semi-bituminous, Broad Top and Clearfield.....	17,843	16,618	Inc. 1,225	7½
Cumberland.....	52,438			

Cotton Movement.

The total cotton receipts in the United States for the eight months of the crop year ending with April were:

	1874-75.	1873-74.	Decrease.	P. c.
Bales.....	3,319,082	3,576,307	257,225	7.7
For the same time the receipts at the leading ports were:				
	1874-75.	1873-74.	Inc. or Dec.	P. c.
Charleston, bales.....	406,456	417,957	Dec. 11,491	2¾
Savannah.....	598,979			
Mobile.....	313,591	286,028	Inc. 27,563	9½
New Orleans.....	948,748	1,126,509	Dec. 177,761	15½
Memphis.....	314,650	406,335	Dec. 91,685	22¾

OLD AND NEW ROADS.

Saginaw Valley & St. Louis.

The stockholders of this company met May 1, and voted to increase the capital stock to \$850,000 and to extend the road from St. Louis, Mich., west to Grand Rapids. The road now runs from East Saginaw, Mich., west to St. Louis. The Chicago, Saginaw & Canada, which has now some road graded west of St. Louis, endeavored some time since to secure control of this company, but was not successful. The new extension would be parallel and close to the Chicago, Saginaw & Canada.

Cincinnati Southern.

The contract for the Kentucky River Bridge has been awarded to the Baltimore Bridge Company, for \$377,500, which is considerably above the three bids originally put in by the company, which were \$344,000, \$350,000 and \$358,000 for three different plans. The present award is conditional on the acceptance by the Bridge Company of the specifications as prepared. The bridge will be a truss bridge of three spans, each of 386 feet, making the total length 1,068 feet. It will rest on two

abutments and two piers, and the track level is 275 feet above the bed of the river. The piers will be of masonry for 61 feet above the river bed, and will be 39 by 124 feet at the top. Upon the masonry will rest iron trestle piers 176 feet high, and the bridge trusses which are to rest on these piers will be 38 feet deep, which makes up the height of 275 feet, as it will be a deck bridge. The shores are high and rocky and the river bed also rocky, giving favorable ground for the abutments and the pier foundations.

Chester & Lenoir.

A meeting was recently held in Chester, S. C., and a committee appointed to devise some method of raising money to purchase iron and complete the road. The committee afterwards recommended that the company issue \$200,000 in bonds, which should be placed as collateral in the hands of parties who would advance an equal sum to the company. This was approved by the board of directors, and the committee is now raising the money among the people along the line.

Louisville, Paducah & Southwestern.

In the United States Circuit Court in Louisville, April 29, counsel for the trustees, plaintiffs in the foreclosure suit, moved for the appointment of a receiver and named Mr. B. Du Pont as a suitable person. The defendants opposed the motion and excepted to the jurisdiction of the Court. May 6 was appointed for the hearing of arguments on the motion.

The employees of the road have filed a cross bill to secure the wages due them, and argument on their petition will be heard also on May 6.

Florida Central.

In the case of the State of Florida against Anderson and others, the United States Supreme Court has made an order granting the motion to discharge the receiver as far as the Florida Central road is concerned, but continuing it as to D. P. Holland. Mr. Holland is the present owner of the Jacksonville, Pensacola & Mobile road. The Court also directed an account to be taken by a master, and authorized the Chief Justice to make any necessary orders during vacation.

Tenille & Sandersville.

It is proposed to build a branch railroad about five miles long from Tenille, Ga., to Sandersville. The Central Railroad Company, with whose road it will connect at Tenille, will furnish the iron, and parties have offered to grade the road and furnish ties, taking their pay in stock. The only cash outlay required will be for a light engine and a few cars.

Danville, Hazleton & Wilkesbarre.

A meeting of the bondholders is to be held in the Board of Trade rooms, Tenth street, near Chestnut, Philadelphia, May 10, at 11 a. m., for the purpose of hearing a report from the committee heretofore appointed, and of agreeing upon measures to enforce the payment of interest on the bonds. A full attendance is requested by the committee.

Meetings.

The following companies will hold their annual meetings at the times and places given:

- Chicago & Northwestern, in Chicago, June 3, at 1 p. m.
- Chicago, Milwaukee & St. Paul, in Milwaukee, Wis., June 12, at 12 noon.
- Memphis & Kansas City, in Hopefield, Ark., June 1.
- Cincinnati, Hamilton & Dayton, in Cincinnati, May 11.
- United New Jersey Railroad and Canal, at the office in Trenton, N. J., May 25, at 12 noon.
- Keokuk & Des Moines, in Keokuk, Ia., June 3.
- Baltimore & Potomac, at the office in Baltimore, June 2.
- Illinois Central, at the office in Chicago, May 26, at 1 p. m.

Dividends.

Dividends have been declared by the following companies: Cincinnati & Baltimore, 4 per cent., semi-annual, payable May 1.

Manchester & Lawrence, 5 per cent., semi-annual, payable May 3.

Boston, Concord & Montreal, 3 per cent., semi-annual, on the preferred stock, payable May 10.

Cedar Rapids & Missouri River, 1 per cent., quarterly, payable May 1.

Cincinnati, Sandusky & Cleveland, 3 per cent., semi-annual, on the preferred stock, payable May 1.

Iowa Railroad Land Company, 1½ per cent., semi-annual, payable May 1.

Pennsylvania, 4 per cent., semi-annual, payable May 28 to ladies only, to all others May 29.

Erie.

It is stated that the Angell suit against the company in the New York Supreme Court has been withdrawn. The suit brought by Mr. Arnott, of Elmira, has also been discontinued.

The Jefferson Car Company has obtained a judgment for rental of 1,500 cars for about 2½ years at the rate of \$10,500 per month, making about \$315,000.

The traffic of the road during April was very large, and in every important item except grain larger than last year.

Pennsylvania and Delaware.

The Philadelphia Trust, Safe Deposit and Insurance Company, trustee under the first mortgage, has filed a bill in equity in the Chester County Court of Common Pleas to enjoin the sheriff from selling this road. The appointment of a receiver is asked for with the view to a foreclosure of mortgage and an adjustment of the rights of the various debtors.

Green Pond.

This company, which last year built a railroad four miles long, from Charlotteburg, N. J., to the Green Pond mines, has become insolvent, and proceedings in bankruptcy are in progress against it.

Penobscot & Lake Megantic.

A contract has been let to the firm of Schriever & Burpee for the construction of this Maine road, and work is to be begun this season.

Springfield & New London.

Mr. S. E. Arms, of the New London Northern, has been employed to make the necessary surveys of this road from Springfield, Mass., to the Connecticut line in Longmeadow.

Southeastern of Canada.

The Central Vermont Company, since the lease of this road to the Connecticut & Passumpsic Rivers, has refused to continue the contract for the use of the track of its leased Stansfield, Shefford & Chambly road by the Southeastern trains, which have heretofore run over it from West Farnham, P. Q., to St. Johns. The passenger trains are hauled through to St. Johns by the Central Vermont trains, but the freight cars are not allowed to pass. It is said that the Southeastern will at once complete its own line from West Farnham to a connection with the Grand Trunk.

Long Island.

Since the change in the management it has been reported that the late Mr. Charlick owned a large amount of property generally supposed to belong to the company. He is said to have held the title to the Sag Harbor and the Flushing branches and a large amount of real estate. The new managers are investigating affairs and prefer to make no statement at present. It is stated, however, that Oliver Charlick really did possess certain portions of the property of the road in his own name. Some of this property he is said to have acquired in order to

maintain control of the road, and other portions of it he recorded in his own name to shield the road from vexatious suits. Some time before his death he indicated his willingness to sell this property to the road at the same price at which he acquired it.

The new managers intend to make many improvements and to raise the character of the road.

Hot Springs Branch.

The Little Rock Gazette of April 28 says: "The work on the narrow gauge railroad between Hot Springs and Malvern will be commenced on Monday, and it is said, the road will be completed in ninety days. The gauge will be 3½ feet, the rails will be steel, and the length 21¼ miles. The depot grounds at Malvern have already been located."

Malvern is on the St. Louis, Iron Mountain & Southern road, 43 miles southwest from Little Rock.

New Haven & Northampton.

The work of laying this road with steel rails is to be continued, and about 800 tons will be used in renewals this season.

Rhinebeck & Connecticut.

Two hoisting engines are being put in place at Rhinebeck for the purpose of transferring coal from canal boats to the cars. Coal is already carried over the road.

Cincinnati, Wabash & Michigan.

Preliminary surveys are soon to be begun for an extension of this road north by west from Goshen, Ind., to Lake Michigan, at South Haven or Saugatuck, Mich.

Kansas City, St. Joseph & Council Bluffs.

The track of this road was badly broken and washed out at East Nebraska and Forrest City, Ia., by the recent high water in the Missouri. Another break was also made four miles below Council Bluffs. A large force had to be employed to make the needed repairs, which are now complete.

Lake View & Collamer.

This road, which has been under construction for some time past, is completed and partly opened for traffic. It is seven miles long and extends from Becker avenue, in Cleveland, eastward to the village of Euclid. It is intended for suburban travel mainly and is a light standard gauge road, being laid with light rails and worked with a corresponding equipment. The grades are moderate, the country being level, and the road is well ballasted. There are five trestle bridges. It is for the present operated with a steam-car, but an equipment of light engines and cars is being built. Depot buildings are now being put up and repair shops are to be erected at Euclid.

Los Angeles & Independence.

It is reported that negotiations are in progress for the construction of this road eastward to a connection with the Union Pacific at Ogden, Utah.

Union Pacific.

The first train since April 14 passed over the break at Bitter Creek, Wyoming, April 28. The temporary bridges and other repairs are being made permanent as fast as the subsiding of the waters will allow, a large force being employed on the work.

The damage done to the Omaha freight yards by the recent high water in the Missouri is so great that it is thought the yards will have to be moved further back from the river to higher ground.

The Union Trust Company of New York has been appointed Transfer Agent of this company, and will hereafter pay its matured coupons.

New Jersey & New York.

The branch from Nanuet, N. Y., to New City, five miles, is completed and was opened for traffic May 3.

New Egypt & Farmingdale.

Work has been resumed on the section between Ocean Grove, N. J., and Long Branch. A force of men is at work on the bridges over Shark River and other streams, and about 200 hands were to be put on the grading this week. Much of the grading is already done, and it is thought that the whole section can be finished by July.

Galveston, Harrisburg & San Antonio.

The contract for grading the road to the Guadalupe River is let. A large lot of ties has also been contracted for.

Richmond, Fredericksburg & Potomac.

Under the recent decision of the Virginia Supreme Court this company has been obliged to discontinue the use of engines on Broad street in Richmond, and its trains are hauled to the depot by horse power.

Alabama & Chattanooga.

The sale of this road took place finally in Mobile, Ala., May 3, when it was bought by the trustees under the first mortgage for \$1,200,000 in addition to the liens resulting from the suit, receivers' certificates, costs and other legal charges.

Texas Western.

The Superintendent writes as follows under date of April 26: "Track-laying on the main line of the Texas Western Railroad commences to-morrow. The rails, manufactured by the Vulcan Iron Works of St. Louis, are arriving daily, and are said to be of very fine quality. The spikes, bolts, etc., are manufactured by the St. Louis Iron & Bolt Company. The whole of the engines and rolling stock are on the ground, and being the first narrow-gauge stock in Texas, it creates no little interest."

"It is expected that 10 miles, more or less, will be in operation by the time of the opening of the State Fair—May 11."

Quincy, Alton & St. Louis.

Arrangements are being made to secure the extension of this road from its present terminus at Pike, Ill., southeast through Hardin and Grafton to Alton. This will involve the building of a bridge over the Illinois River near its mouth.

Woodstock.

The iron for this road has been contracted for, and track-laying will be begun as soon as the weather is settled. There is some very heavy work on the road, and the bridge at Quechee, Vt., is 180 feet above the water. It will be, when finished, the highest railroad bridge in New England.

Nevada County.

The contract for building the last section, from Grass Valley, Cal., to Nevada City, has been let to W. J. Organ. The contract includes grading, bridging and trestle-work. The location of this section is nearly completed.

California Pacific.

The grading of the line known as the Vaca Valley Extension is nearly completed, and a part of the iron has already been received.

Evansville & Crawfordsville.

The county commissioners of Vanderburg County, Ind., recently sold 2,000 shares of the stock of this company to Mr. A. E. Shrader, who represented Mr. McKean, President of the Terre Haute & Indianapolis Company. The sale was made at 36, and caused much excitement, it being claimed that the price was too low, and that the purchase gave the Terre Haute & Indianapolis Company control of the road. It was also claimed that the sale was not legal, having been made without

the public notice required by law, and a temporary injunction has been procured to prevent the transfer of stock.

Toledo, Wabash & Western.

An express train on this road, recently encountered near Jacksonville, Ill., within a few miles, three obstructions, each consisting of a tie cut out so as to fit over the rails and chained fast to the track with a heavy chain. Fortunately the night was not dark, and in each case the obstruction was seen in time to stop the train without damage.

Tennessee Coal & Railroad Company.

This company reports as follows its earnings from all sources, including sales of coal, for the year ending March 31:

	1875.	1874.	Inc. or Dec.	P. c.
Gross receipts.....	\$251,205 52	\$233,095 79	Inc. \$18,109 73	7%
Expenses and interest.	170,719 51	179,211 84	Dec. 2,492 33	1%
Net profit.....	\$74,486 01	\$53,883 95	Inc. \$20,602 06	38%
Bushels coal shipped..	2,760,818	2,318,773	Inc. 442,045	19%

The company owns a railroad 21 miles long from its mines at Tracy City, Tenn., to the Nashville, Chattanooga & St. Louis road, besides 10 miles of track in the mines.

Western of Columbia.

The schooner Evelina is now loading at New York with tools and material for the construction of this road, and will shortly sail for the Magdalena River. The road is to be of 3 feet 6 inches gauge, and is to extend from Honda, at the head of navigation on the Magdalena, to Santa Fe de Bogota, the capital of the United States of Columbia. It will be 110 miles long and in that distance rises 9,000 feet, there being many miles of 4 per cent. grades—211 feet to the mile.

St. Joseph & St. Louis.

At the annual meeting in St. Louis, April 29, the committee appointed by the board to consider whether any modifications of the lease of the road to the St. Louis, Kansas City & Northern were desirable reported that they had not been able to reach any conclusion. The committee was discharged and further consideration of the matter postponed to a meeting to be held July 1.

Auction Sales of Railroad Securities.

In Charleston, S. C. April 28, the following prices were obtained at auction: South Carolina Railroad stock, \$10 per share; second-mortgage bonds, 66%; Northeastern Railroad first preferred 8 per cent. bonds, 91%.

In New York, May 5, the following prices were paid, also at auction: Paris & Danville, first mortgage, 24; Burlington, Cedar Rapids & Minnesota, first mortgage, 25 and 28; New York, Housatonic and Northern, first mortgage, 28; St. Joseph & Denver City, first mortgage, Western Division, 25; Houston & Texas Central, first mortgage, 82.

Vermont & Canada.

A special meeting of the stockholders was held in Bellows Falls, Vt., April 29, to vote upon the amended contract for the sale of the road to the Central Vermont Company. After a very sharp discussion, the following resolution was carried by a vote of 12,720 shares to 8,856:

"Resolved, That all the property of the Vermont & Canada road shall be transferred to the Central Vermont road upon the payment of \$3,000,000 in the bonds of the Central Vermont road, secured by a conditional deed of the Vermont & Canada Railroad, the bonds to carry 6 per cent. interest, payable in June and December of each year."

Immediately after the meeting an injunction was served on the directors to prevent the execution of that portion of the contract of sale which provides for putting the stock in the hands of trustees. A hearing in the case will be had May 8, when the temporary injunction will be dissolved or made permanent.

Joliet & Northern Indiana.

Julius Wadsworth, H. V. Poor and other bondholders have begun a foreclosure suit against this company to enforce the payment of the bonds issued in 1854, the principal of which became due in July last. They ask for the appointment of a receiver with power to collect the rent due from the lessee, the Michigan Central Company, and for an injunction to prevent the lessee from paying the rent to the Joliet & Northern Indiana Company, and that the road may be sold and the proceeds applied to payment of the bonds.

The bonds amount to \$800,000, bearing 8 per cent. interest, and when they fell due last year the Michigan Central, which owns four-fifths of the stock, offered to pay them in new 6 per cent. bonds. The road is generally known as the Joliet Cut-off, and is 44 miles long, from Lake Station, Ind., to Joliet, Ill. The annual rental is \$89,000, and the working expenses usually exceed the gross receipts.

Louisiana & Missouri River.

This road was sold at Sheriff's sale in Columbia, Mo., April 22, to satisfy a judgment obtained by John Sheehan and others, contractors. The attorney for the Chicago & Alton Company was present and gave formal notice of the claims of that company against the road. It was bid in by the firm of Sheehan & Loller for \$250.

The road extends from Louisiana, Mo., west by south to Mexico and thence southward to Jefferson City, and is 106 miles long. It is leased and worked by the Chicago & Alton, forming part of its Kansas City Line. Some work has been done on an extension west from Mexico towards Kansas City. The Chicago & Alton is now prosecuting a suit to enforce claims amounting to over \$200,000 against the company.

Boston, Hartford & Erie.

The trouble caused by the breaking of the dam on Mill River at Wrentham, Mass., recently was serious, and much worse than at first reported. Nearly 900 feet of a high embankment was washed away, and the repairs of the road took nearly two weeks to complete. Meantime all the through trains were run from Boston over the Woonsocket Division to Blackstone.

The United States Supreme Court has given a final decision against Mr. Sidney Dillon in his suit to recover \$1,000,000 on a contract for the construction of part of the road. The original suit against the company was dismissed and the trustees for the bondholders were then sued on the ground that they, through the indenture, were responsible for every contract entered into by the corporation. The Court rejected this claim on the ground that a contractor had no right in law to recover from trustees.

Lee & New Haven.

The Railroad Committee of the Massachusetts Legislature reported unfavorably on the petition of this company for the renewal of the grant of State aid, and the company was given leave to withdraw its petition. This effectually disposes of it for this year, at any rate, and probably altogether.

Albia, Knoxville & Des Moines.

The property and franchises of this company were sold at Ottumwa, Ia., April 28, the purchaser being ex-Gov. Merrill, of Des Moines. The purchase is in the interest of the Chicago, Burlington & Quincy. Some grading has been done on the road, but no iron was ever laid. Mr. Merrill agrees to have the road completed this year from Albia, Ia., to Knoxville, when it will be worked as a branch of the Chicago, Burlington & Quincy.

Wilmington & Reading.

Holders of second-mortgage bonds are requested to deposit their bonds with the Guarantee, Trust & Safe Deposit Compa-

ny, No. 318 Chestnut street, Philadelphia, and to pay the assessment agreed upon, 0½ per cent. on the face of the bonds, as soon as possible. The assessment is to meet the expenses of the action now pending for the enforcement of their rights. In case of a purchase of the road at foreclosure sale, the bonds will be used in payment of the purchase money. Further information can be had from DeHaven & Townsend, No. 40 South Third street, Philadelphia.

New York, Kingston & Syracuse.

This road was sold in Kingston, N. Y., May 1, under foreclosure of mortgage. It was bought for \$750,000 by the Farmers' Loan & Trust Company, trustee, on behalf of the bondholders. It is understood that the latter will organize a new company at once, and make arrangements to complete the road to Oneonta. It is now 7½ miles long, from Kingston, N. Y., west by north to Stamford.

Jersey City & Albany.

This company has resumed possession of its road, which has been for some time operated by the New Jersey Midland under a temporary agreement. Additional trains are to be put on and efforts made to develop the business of the road, and also to complete the extension from the New Jersey line at Tappan to Haverstraw, N. Y., most of which is graded. The finished part of the road is 12 miles long, from the New Jersey Midland at Ridgefield Park north to Tappan.

Western of Alabama.

The liabilities of this road, recently sold by order of the Alabama Chancery Court, are stated as follows:

Montgomery & West Point first mortgage.....	\$750,000 00
Accrued interest.....	180,100 88
Western Railroad bonds.....	1,768,000 00
Accrued interest.....	551,336 62
Court and other legal expenses.....	20,295 46
Total.....	\$3,229,792 91

The minimum price fixed by the Court was \$3,129,166.01. Of this the purchasers, the Georgia and Central of Georgia companies, have to pay in cash only the court and legal expenses and the accrued interest on the Montgomery & West Point bonds. The principal of the bonds they assume the payment of, and a part of them they had already guaranteed. The interest on the bonds guaranteed by them heretofore they have always paid as it became due, so that only the Montgomery & West Point bonds were really in default. The matter of the sale will come up before the Chancellor May 15, when it will, doubtless, be ratified.

The road will be operated for joint account of the two purchasing companies, under arrangements to be completed hereafter.

Frederick & Pennsylvania Line.

The lease of this road to the Pennsylvania Railroad Company has been duly recorded in the clerk's office of Frederick County, Md. It is for 999 years from January 1, 1875, unless sooner determined, the stipulation being that it can be annulled after January 1, 1880, by giving one year's notice. The Pennsylvania Railroad Company is to receive all freights and fares, to make all improvements required, and in case the Pennsylvania road does not make the necessary improvements, the Frederick & Pennsylvania Line Company is to issue bonds to the amount of \$300,000 for this purpose. The Pennsylvania Company will take formal possession about the middle of May.

New York & Oswego Midland.

The Utica bondholders' committee, consisting of Edwin H. Risley, Charles G. Bush and Clarkson T. Collins, has submitted another plan of reorganization, which is said to be favored by many bondholders. A brief summary is as follows:

1. The foreclosure to be completed and the road sold.
2. The road to be bought in by the first-mortgage bondholders.
3. A. D. Mather, C. G. Burke and C. T. Collins, with two other bondholders to be chosen hereafter, to be appointed to act as trustees.
4. Bonds to be deposited with them, with power to use them in carrying out the plan.
5. These trustees to bid in the road for subscribing bondholders.
6. A new company to be organized by the purchasers and the road transferred to it by the trustees.
7. A new first and only mortgage for \$6,000,000 to be made, \$1,500,000 to pay legal expenses and receivers' certificates and improve the road; \$4,500,000 to exchange for 50 per cent. of the present first mortgage and accrued interest. This mortgage not to be foreclosed for any default in interest until after five years, and then only on request of three-fifths of the holders.
8. For the balance of the present first mortgage, 7 per cent. first preferred stock to be issued, which is to be exchanged for first mortgage bonds when the earnings shall be sufficient to pay all interest claims and full dividends on this stock.
9. For the junior securities and floating debt, graded stock to be issued, and for the present common stock, new common stock; provided that the holders shall take at par \$1,500,000 of the new first-mortgage bonds and pay cash therefor. The graded and common stock to have no vote in the management until the first preferred stock is funded, as above.
10. In case the holders of junior securities decline to buy the \$1,500,000 new bonds, the trustees shall be authorized to sell them at not less than 70 cents on the dollar.

The right is expressly reserved to alter this plan by the consent of a majority of subscribing bondholders.

Baltimore & Ohio.

In the suit between this company and the State of Maryland, on appeal from the Maryland Court of Appeals, the United States Supreme Court has rendered its decision. The suit was brought to recover a tax of 20 per cent. on the passenger receipts of the Washington Branch, imposed under the charter of that line. The company refused payment of this tax some years ago, after paying it for a number of years, and has since contested it, holding that it is a tax on travel between States, which the State had no power to impose. The Court now decides in favor of the State, holding that, while a State cannot impose a tax on travel between States, yet this case is of a different nature. The tax in question is specified in the charter and its payment is a part of the consideration for the granting of that charter, and is a condition which the State had a right to impose. The decision of the State Court that the tax was not unconstitutional is affirmed. Mr. Justice Miller dissented.

Improvement of Canadian Canals.

A dispatch from Ottawa, Can., dated May 3, says: "Important modifications of the canal works now in progress have been resolved upon by the Government. With reference to the completion of the works on the Welland Canal, it is stated that the depth in all locks of twelve feet will be adhered to, and that the harbors at Port Colborne and Port Dalhousie will be deepened to sixteen feet, and the guard locks at each end of the canal will also be deepened to fourteen feet. Also, a new aqueduct will be built for the Welland River. Preparations for a fourteen-foot system throughout having been made at both ends and at the aqueduct, the necessary change to be made at a future time can be accomplished at small expense and without inconvenience to navigation. Preparations are being made to let out the main works on the Lachine Canal, and provision will be made for ultimately obtaining fourteen feet of water, by having guard locks and other works made to shut that depth. The canals between Prescott and the Long Sault are to be enlarged; also,

the Cornwall and Beauharnois canals. These portions of the St. Lawrence works will occupy the attention of the Government after the Welland and Lachine Canal have been attended to. Greater difficulty will be encountered in deepening the bed of the St. Lawrence than in deepening the canals and enlarging the locks, as for many miles the river will have to be excavated to obtain the required depth, especially in Lake St. Louis, between the Lachine and Beauharnois, and between the latter and Prescott."

New York Central & Hudson River.

Orders have been given that the Pullman cars coming over the Michigan Central from Chicago shall be stopped at Suspension Bridge instead of running through to Rochester. A car is still allowed to run through to New York, but notice has been given that this will be stopped after October 1, when no Pullman cars will be allowed over the road. The Wagner Company cars run over the New York Central.

The company has purchased the Utica & Black River freight house and other property in Utica, for the purpose of laying the two additional tracks through that city, where they have not yet been put down, owing to the difficulty of securing sufficient room.

The Supreme Court has appointed commissioners to appraise the value of a triangular strip of land needed for the new elevator at Sixty-fifth street, New York, which belonged to the Metropolitan Gas Light Company, and which has been in dispute some time. The commissioners valued the land at \$33,000, and their report has been confirmed by the court.

Cincinnati, Ohio River & Virginia.

The committee appointed at the recent convention held in Ironton, O., to favor the building of a road from Cincinnati to a connection with the Chesapeake & Ohio, on the north side of the Ohio River, has held a meeting and adopted a plan for the organization of a company under this name. The question of a financial basis was referred to a sub-committee.

Chicago, Milwaukee & St. Paul.

A movement is on foot for a change in the direction at the coming annual election. It is understood that the President, Mr. Alexander Mitchell, and his friends desire to turn out Vice-President Sage and his friends, and substitute other parties for them. A circular has been sent to stockholders by the President and several directors and stockholders requesting proxies, which concludes thus: "Among other contemplated reforms it is intended that the office in New York shall be used exclusively for the business of the company, and be under management that will have no interest in the stock market inconsistent with that of the shareholders."

Delaware, Lackawanna & Western—Morris & Essex Division.

A temporary delay in the work on the new Bergen Tunnel has been caused by the laborers employed striking for higher wages. The work on the approaches at each end has made considerable progress.

All the coal from the main line now comes over this division to the depot at Hoboken, the contract with the New Jersey Central having terminated May 1. Work is progressing steadily on the dock improvements at Hoboken.

Gulf, Colorado & Santa Fe.

The Galveston News of April 28 says: "The bids for construction of this road from this city to the intersection of the International & Great Northern Railroad, a distance of about 42 miles, were considered yesterday by the directors. There were over 70 different bids for portions of the work and material. After considering all the bids, the board accepted that of Messrs. Burnett & Kilpatrick for the grading, tracklaying and bridging of the entire distance, including the bridge complete over West Bay."

Work has since been begun with some ceremony.

Pennsylvania.

At a special meeting of the board of directors, May 1, it was resolved to pay the usual semi-annual dividend, but to make it 4 instead of 5 per cent. The reasons given for this action are that it is deemed best to retain at present a share of the profits to meet possible contingencies, and also a large expenditure for depots and additional equipment to meet the expected large travel of next—the centennial—year. The 1 per cent. thus deducted from the dividend amounts to about \$680,000.

Jefferson City & Southwestern.

This company has filed articles of incorporation with the Secretary of State of Missouri. The capital stock is to be \$300,000 and the road is to be run from the west line of Cole County, Mo., southwesterly through the County of Moniteau to Versailles in Morgan County, a distance of about 20 miles.

Pueblo & Arkansas Valley.

Contracts for the grading, tracklaying and bridging of 56 miles of this road from the western terminus of the Atchison, Topeka & Santa Fe at Granada, Col., west to West Las Animas were recently let. The conditions required were that grading should be begun by May 10 and completed by August 1; tracklaying be begun by June 1 and finished by August 15; bridge building be completed fast enough not to interfere with the tracklayers. All material to be furnished by the company. Payment to be made half in county bonds and half in cash, 10 per cent. of the latter to be retained until the completion of the work.

A Topeka dispatch says that the bridges were let to W. Twedale, of Topeka, Kan.; the tracklaying to Long, Shepherd & Co., of Chicago, and the earthwork to a number of parties.

The road is the Western Extension of the Atchison, Topeka & Santa Fe.

Chicago & Lake Huron.

Notice is given that there will be sold at public auction in Pittsburgh, May 27, 495 bonds of the Peninsular Railroad Company pledged to the Continental Improvement Company and 495 other bonds pledged to the Pennsylvania Company. These bonds were pledged to secure the repayment of money advanced to the Peninsular Company, now consolidated with the Chicago & Lake Huron, and to secure the other companies against certain liabilities which they incurred. The money has not been paid and the companies have not been relieved from the liabilities.

Flint & Pere Marquette.

The Land Department reports that the sales of land during the past year were 8,215 acres for \$89,502. The total sales to January 1, were 181,296 acres, from which \$2,103,610 were realized, being an average of \$8.06 per acre. There is yet remaining unsold of the land grant 262,885 acres. The early sales were mostly to speculators for the pine lumber, while the recent sales were to settlers for farming purposes.

Carolina Central.

A circular has been issued, apparently in the interest of a party of old bondholders represented by the late Receiver, cautioning persons against purchasing the first-mortgage bonds of this company numbered 1,501 to 3,000, inclusive, and dated May 17, 1873, and the second-mortgage bonds numbered 1 to 3,000 and dated April 1, 1874. These bonds were mostly purchased by Edward Matthews, now President of the company, but the circular charges that his contract for their purchase was invalid and says that it will be contested. Other charges are made against the present management. The matter seems to arise

out of an old quarrel between different parties of the old company's creditors.

The Wash-outs on the Union Pacific.

A correspondent of the Chicago *Inter-Ocean*, writing from Green River, Wyoming, April 23, gives the following account of the great destruction caused by water on the Union Pacific, and the circumstances attending it:

"The melting of the great depth of snow on the mountains caused a volume of water greater than has ever been known before to flow down, and greater than the old water lines indicate has existed for centuries in the park. Then the peculiar formation of the Bitter Creek country is another great hindrance to keeping a railway bed in place, even in ordinary times. It seems to be and acts more like a great bed of old leached ashes of soda than anything I ever saw. When dry it crumbles and recedes as it is walked on. When damp it caves away. When thoroughly wet it washes away and disappears with as much froth and foam as though it were a veritable pile of soda."

"The railway enters this district at Creston, 787 miles west of Omaha, though the country is much the same for several miles east. Between Rawlins and Green River, a distance of 136 miles, is where the main trouble has occurred, the water making no less than forty breaks in the road bed, though many of them required but a few hours to repair. The larger breaks, and main cause of the trouble, is all within six miles of Green River Station, on Bitter Creek, and are four in number."

"The first is a washout of a mile of an embankment twenty feet high, about three miles east from Green River. Probably just such another washout never occurred before, nor could it have occurred here were the water ever so high, if it were not for the pile of alkali dust that the grade was made of."

"The next is a crossing of Bitter Creek, a mile east of this washout, by a truss bridge, including an embankment 400 feet long, which is entirely gone."

"The next break is the complete washing out and carrying away of another bridge a mile east of the last one mentioned, 376 feet long, and substantially built."

"The next and fourth bridge carried away was about one-half mile east of the second one mentioned. It lost about 100 feet of its middle portion. When the waters subsided and after repairing 130 miles of track, it was found that there was six miles that included about the worst washout ever known in railway experience. Three bridges must be wholly rebuilt before trains could resume their way. The material for these bridges had to be transported for hundreds of miles, and owing to the peculiar location of the country and the lack of accommodations to take care of the men, and the distance that provisions had to be transported, no more than 400 or 500 men could be employed, where there ought to have been at least 2,000. The lack of teams was another drawback; 200 or 300 could be employed, but only about one-third of the number needed could be had, and they were gathered up wherever they could be found for twenty-five miles on either side of the road, from Ogden to Laramie, a distance of nearly 500 miles."

Chicago, Rock Island & Pacific.

It is reported that the main line of the Iowa Division will probably be straightened and improved by building a new line from Davenport westward by way of Muscatine. The new line would then be used for express trains and west-bound freight, local trains and east-bound freight going by the present road. The Sigourney Branch would be extended westward to Oskaloosa and beyond and the present track of the Southwestern Division from Wilton to Muscatine taken up.

The Davenport (Ia.) *Gazette* says: "When the old Mississippi & Missouri road (now part of the Chicago, Rock Island & Pacific) received its land grant, the grant was to embrace a strip of land 15 miles wide on either side of the proposed route. This land was certified to the State for the use of the road, and to be certified to the road as each 20 miles of road were completed. Subsequently the line of the road was changed 15 miles south, and by act of Congress, in 1874, the land grant was changed to correspond thereto. After the change, settlers began to take up homesteads between the two northern lines of the old and the new 15-mile grant. The company, however, claimed all the land granted on both lines, and by some means Congress, by an act of 1873, confirmed the title in the railroad company, excepting where other vested rights intervened. The Land Commissioner now decides that those settlers who occupied homesteads prior to the act of 1873, having acquired possession and made improvements when the title to the land was in the Government, or at least in abeyance, cannot now be disturbed, and they will be protected as against the railroad company."

Notice is given by the Treasurer that 150 bonds of the sinking-fund mortgage issue will be paid off and retired July 1 under the operation of the sinking fund clause in the mortgage. Interest on them will cease after that date. The bonds designated will be paid at the Treasurer's office in New York on presentation any time after May 1, with accrued interest to date of payment.

The numbers of the bonds to be paid are: 113, 133, 197, 210, 251, 264, 295, 296, 491, 500, 535, 638, 678, 705, 707, 725, 747, 766, 795, 931, 1100, 1142, 1203, 1302, 1334, 1577, 1622, 1633, 1688, 1801, 1805, 1838, 1848, 1868, 1875, 2113, 2114, 2152, 2168, 2183, 2194, 2205, 2208, 2288, 2291, 2294, 2697, 2714, 2726, 2778, 2825, 2831, 2850, 2859, 3209, 3210, 3230, 3297, 3446, 3506, 3522, 3530, 3765, 3835, 3973, 4028, 4116, 4225, 4269, 4320, 4349, 4373, 4380, 4507, 4518, 4534, 4632, 4749, 4755, 4914, 4986, 4971, 5142, 5150, 5153, 5196, 5236, 5297, 5314, 5323, 5400, 5485, 5517, 5565, 5580, 5581, 5599, 5693, 5649, 5715, 5722, 5753, 5760, 5789, 5997, 6135, 6172, 6177, 6202, 6207, 6217, 6303, 6306, 6309, 6315, 6366, 6368, 6364, 6366, 6555, 6572, 6838, 6846, 6862, 6883, 6993, 7009, 7040, 7239, 7274, 7312, 7382, 7405, 7483, 7495, 7554, 7591, 7579, 7600, 8332, 8492, 8493, 8494, 8510, 8701, 8740, 8757, 8877, 8904, 8908.

United States Rolling Stock Company.

An adjourned meeting of the stockholders was held in New York, April 28. The committee upon the claims of the company against Bischoffsheim & Goldschmidt stated that a report had been made to the board of trustees, but the committee had not been able to take any definite action, owing to the restrictions placed upon it. Several communications from London stockholders were read, and it was finally decided to continue the former committee and withdraw the restrictions upon its authority. The President stated that all difficulties with the Receiver of the Atlantic & Great Western had been settled, and a new lease executed, to date from December 10, 1874. The lease included about three-fifths of the equipment formerly hired and at a slightly lower rent, the Receiver assuming all depreciation of the rolling stock. Payment was perfectly secure and the income would be about \$250,000 per year, almost all net profit to the company, while about half its stock would be left free to lease to other parties.

Evansville & Newburg.

This company has filed articles of incorporation with the Secretary of State of Indiana, and purposes building a narrow-gauge road about ten miles long from Evansville, Ind., east to Newburg. The capital stock is to be \$100,000.

Cumberland Valley.

This company owns a line from Harrisburg, Pa., southwest to Williamsport, Md., 82 miles, and it works under lease the Martinsburg & Potomac road, from Williamsport to Martinsburg, W. Va., 12 miles; the Dillsburg & Mechanicsburg road, from Mechanicsburg to Dillsburg, 8 miles; the Southern Penn-

sylvania road from Southern Pennsylvania Junction to Richmond, with branch to Mercersburg, 23 miles in all. The mileage leased is 43 miles, of which 12 form part of the main line. The total mileage worked is 125 miles. It is, in part at least, an old road which has grown by gradual extension, the present report covering the fortieth year of its existence.

The equipment with which the road is worked consists of 22 locomotives; 19 passenger and 6 baggage cars; 253 eight-wheeled and 19 four-wheeled freight cars. During the year one locomotive was bought and one passenger and 25 freight cars built in the company's shops; the passenger trains were fitted up with the Westinghouse air brake.

The capital account was as follows, at the close of the two last fiscal years:

	1874.	1873.
Preferred stock.....	\$484,900 00	\$484,900 00
Common stock.....	1,290,012 50	1,290,012 50
Total stock.....	\$1,774,912 50	\$1,774,912 50
Bonded debt.....	352,300 00	352,300 00
Total.....	\$2,130,150 00	\$3,127,212 50

The stock is at the rate of \$21.681 and the debt \$4.298 per mile owned. The annual interest charge is \$26,548, or \$324 per mile.

The earnings for the year ending September 30 were as follows:

	1873-74.	1872-73.	Inc. or Dec.	P. c.
Freight.....	\$407,923 73	\$411,153 34	Inc. \$3,230 61	0%
Passengers.....	231,017 96	218,352 33	Inc. 12,665 53	5%
Mails and express.....	16,103 05	14,338 85	Inc. 1,764 20	13%
Miscellaneous.....	16,590 94	7,221 10	Inc. 9,369 84	129%

Total earnings.....	\$671,635 28	\$651,065 72	Inc. \$20,569 56	3%
Operating expenses.....	326,322 91	307,840 68	Inc. 18,482 23	6%
Net earnings.....	\$345,312 37	\$343,225 14	Inc. \$2,087 23	0%

The earnings and expenses are divided as follows:

	Earnings.	Expenses.	Net earnings.	P. c. of earnings.
Cum. Valley.....	\$603,310 05	\$274,290 87	\$329,019 18	\$7.357 45.46
Southern Penn.....	33,701 89	25,603 36	7,098 53	1.465 78.44
Dills. & Mech.....	16,113 93	9,888 42	6,225 51	2,014 61.32
Mart. & Potomac.....	18,509 41	15,570 26	2,939 15	1,542 84.10
Total.....	\$671,635 28	\$326,322 91	\$345,312 37	\$5.373 48.59

The train mileage and number of passengers carried were:

	1873-74.	1872-73.	Inc. or Dec.	P. c.
Passenger train mileage.....	174,490	150,530	Inc. 23,960	15%
Freight.....	195,224	175,000	Inc. 20,224	10%
Passengers carried.....	399,352	354,912	Inc. 44,440	10%

The increase in passengers was largely from excursion passengers in the Summer, who are chiefly for short distances. The coal tonnage for the year was 112,447 tons, an increase of 15,885 tons; iron ore 82,233 tons, a decrease of 18,479 tons. In blooms and pig iron there was a decrease of 4,409 tons. The depressed condition of the iron business has caused a serious decrease of business, especially on the branch lines.

The earnings and expenses per train mile were as follows:

	Passenger.	Freight.	All Trains.
Gross earnings.....	\$1.4162	\$2.1112	\$1.8086
Expenses.....	0.7288	1.0807	0.8874
Net earnings.....	\$0.6874	\$1.0905	\$0.9212

Payments on construction account were \$59,709.84; interest, \$27,102.30; dividends, \$139,955.50; State tax, \$11,143.24. In September it was decided to increase the regular semi-annual dividend from 4 to 5 per cent., which rate, it is believed, can be maintained.

During the year, 450 tons of re-rolled iron and 23,260 new ties were used. For the current year 800 tons of rails will be needed. Part of these will be re-rolled rails, and it has been decided to buy steel rails whenever new ones are needed.

Trains have run with great regularity and remarkable exemption from accident.

Allegheny Valley.

This company operates the following lines:

	Miles.
Main Line, Pittsburgh, Pa., to Oil City.....	132
Pium Creek Branch.....	7
Low Grade Division, Red Bank to Driftwood.....	110
Sligo Branch.....	10
Total.....	259

The Low Grade Division and Sligo Branch have been operated only since May 1, 1874. It is claimed that the Sligo Branch was built by the late President without authority, and the present management has declined to recognize it as the property of the company. It has, however, been operated on certain parties guaranteeing the company against loss.

The company also works the Buffalo, Corry & Pittsburgh road, from Corry, Pa., to Brocton, N. Y., 43 miles, the earnings of which are stated separately. This road was purchased at foreclosure sale by the late President, Col. Phillips, in his own name and then leased to this company for 999 years. Nevertheless, the company paid out of its own funds \$37,000 purchase money, besides the sum of \$165,517.84, subsequently, for improvements. There is still due on the purchase money \$132,094.26, with interest, secured by a mortgage on the property. The board was in some doubt whether the company could be legally holden for the payment of these notes, but as the large amount already paid could not be recovered, and as the road was of indirect value as forming a connection with Buffalo, the board thought it best to make to Mr. A. H. Barney, Trustee, holding the notes, an offer of compromise. The offer was, to pay the notes with Allegheny Valley income bonds, with an agreement to apply the net earnings of the Buffalo, Corry & Pittsburgh to the redemption of the bonds, and to guarantee the net earnings to amount to \$4,000 per month. This offer has been recommended by Mr. Barney to the court having jurisdiction over the matter for its approval, which it is thought will be granted. The administrators of the estate of Col. Phillips have expressed a willingness to convey the road to this company whenever they can thereby be relieved from all further liability, which can be done if the proposed compromise is effected. It is then proposed to organize a new company to own the road, all the stock of which will belong to the Allegheny Valley.

The company holds 41,000 shares of Oil Creek & Allegheny River stock, bought from the Philadelphia & Erie in 1872 at \$37.50 per share. This stock was finally settled for in March, 1874, by the issue of income bonds for the amount of the purchase money and interest due and unpaid thereon.

The report gives an account of the difficulties arising from the large floating debt and of the agreement finally concluded with the creditors, the particulars of which were given in the *Railroad Gazette* for August 22, 1874.

The capital account at the close of the year was as follows:

Capital stock (\$2.365 per mile).....	\$2,166,500 00
First mortgage bonds.....	37,000 00
Second ".....	8,000 00
General ".....	3,967,000 00
First mortgage, Low Grade Division.....	9,918,000 00
Second ".....	3,509,000 00
Income bonds issued.....	999,800 00
Real estate bonds and mortgages.....	136,445 97

Total bonded debt (\$71.762 per mile).....\$19,598,243 97
Floating debt (\$23.999 per mile).....6,318,088 65

Total (\$104.116 per mile).....\$26,916,332 62

The floating debt includes \$5,112,099.90 suspended debt, which is to be funded in income bonds under the agreement with the creditors, and \$687,755.87 accrued interest, the balance being current accounts and bills payable. The assets in cash and available accounts amount to \$488,763.30.

The cost of the Low Grade Division is reported as follows:

Cash cost (\$75.231 per mile).....	\$8,281,073 48
Discount on bonds and interest.....	2,938,617 84
Total cost (\$101.9.5 per mile).....	\$11,219,691 30

The arching of the Summit Tunnel, 1,957 feet in length, is only partly finished and will have to be completed during the current year at an estimated cost of \$100,000. The work on this Low Grade Division is exceedingly solid and durable, and much of it, in the opinion of the present management, has been unnecessarily expensive. The report says: "For some unexplained reason, the financial transactions pertaining to the cost of construction of the Low Grade Division (or Bennett's Branch), including the sales of nearly ten millions of bonds and negotiations of several hundred thousand dollars of bills payable, were not allowed by the late President to be entered on the books of the company, and many of the transactions were not a matter of record in any form, thus involving great difficulty in procuring the information necessary to make them appear properly in the accounts of the company."

Many of the expenditures incurred by the former management are characterized by the present board as unnecessary, or at least premature.

For the year ending December 31 the earnings of the road were as follows:

	1874.	1873.	Inc. or Dec.	P. c.
Freight.....	\$1,823,306 27	\$5,079,237 34	Dec. \$3,255,931 07	12.9
Passengers.....	508,110 26	551,652 49	Dec. 43,542 23	7.9
Exp. and mails.....	25,320 71	24,271 84	Inc. 1,048 87	4.3
Rents.....	5,655 12	5,166 93	Inc. 488 19	7.7
Miscellaneous.....	27,179 64	36,909 84	Dec. 9,730 20	26.4

Total earnings.....	\$2,389,472 00	\$2,697,284 34	Dec. \$307,812 34	11.4
Working expenses.....	1,470,784 73	1,931,912 94	Dec. 461,128 21	28.9
Net earnings.....	\$918,687 27	\$765,371 40	Dec. \$153,315 87	20.0

Gross earnings per mile.....10,910 83

Net earnings per mile.....4,194 92

Per cent. of expenses.....61.85

The working expenses include general expenses, which were \$90,145.77 in 1874 against \$111,383.84 in 1873. The earnings for 1873 were only from the Main Line and Plum Creek Branch; in 1874 the Low Grade Division and Sligo Branch are included from May 1, although, owing to difficulties with the laborers employed in construction, they were not fairly opened until June. The earnings per mile of the Main Line show an decrease of 21.9 per cent.

The earnings and expenses were divided as follows in 1874:

	Earnings.	Expenses.	Net earn.	P. c. of earnings.
Main Line.....	\$2,107,446 12	\$1,285,556 37	\$821,889 75	\$18.161 61.01
Low Grade Div.....	282,025 88	185,098 36	96,927 52	3.395 65.63
Totals.....	\$2,389,472 00	\$1,470,784 73	\$918,687 27	\$19.911 61.85

The mileage here is averaged for the year in calculating the earnings per mile. The operating expenses per train mile for the Main Line were \$0.924 in 1874 against \$1.095 in 1873; for the Low Grade Division they were, in 1874, \$0.91. Coal and oil are known to exist in large quantities near the line of the Low Grade Division and will in time, it is thought, supply a large local traffic to that line. The expectation of a large through traffic has not as yet been realized.

The decrease in earnings has resulted from the general depression of business which has prevailed during the year 1874, and which has been most severely felt by the iron, coal and oil interests, upon which the road is largely dependent for traffic, whereby there has been not only a great decrease in the volume of traffic, or of tons and passengers moved, but it has also compelled a general reduction in the rates of transportation. This reduction has been met by a reduction in expenses, which is the result of a more thorough system and supervision and a stricter personal accountability of the officers and agents of the company.

The earnings and expenses of the Buffalo, Corry & Pittsburgh road were for the year:

Earnings (\$3.625 per mile).....	\$185,887 40
Expenses (88.70 per cent.).....	138,277 31
Net earnings (\$410 per mile).....	\$17,610 09

The net earnings were 3.65 per cent. on the cost of the road to this company.

The board believes that the crisis in the affairs of the Allegheny Valley Company has been passed, and that with prudent management and a fair revival of business the earnings of the property will be sufficient to meet all the charges upon it hereafter.

Gulf, Western Texas & Pacific.

This company owns a railroad 68.8 miles long from the port of Indianola, Tex., northwest to Cuero. It is intended to extend the road hereafter to San Antonio. The road is further south than any other in the United States, with the sole exception of the short Rio Grande Railroad.

The equipment consists of 5 engines, three passenger and two mail and baggage cars, 29 box, 5 stock and 31 platform cars.

The property is represented as follows:

Capital stock (\$15.328 per mile).....	\$1,064,800
First mortgage bonds (\$20.145 per mile).....	1,386,000
Total (\$35.473 per mile).....	\$2,450,800

The cost of road and equipment is stated at \$1,919,752.82; discount and interest on bonds and premium on stock, \$749,619.35; total, \$2,669,372.17.

The earnings of the road for the year ending March 31 were as follows:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Freight.....	\$140,510 41	\$205,559 93	Dec. \$65,049 52	32
Passengers.....	18,784 05	25,014 05	Dec. 6,230 90	24%
Mails.....	3,490 83	3,706 48	Dec. 215 65	5%
Miscellaneous.....	1,609 04	7,019 18	Dec. 5,410 14	76%

Total earnings.....\$164,454 39

Working expenses.....114,291 71

Net earnings.....\$50,162 68

Gross earnings per mile.....2,390 32

Net earnings per mile.....1,344 65

Per cent. of expenses.....60.50

One mixed train daily each way was run, and the revenue train mileage was 51,000 miles. The average receipts per revenue train mile were \$3.22; expenses, \$2.02; net earnings, \$1.20. Repair trains ran 8,900 miles, mainly to repair damage done by flood. The trains carried 35,229 tons of freight, equal to 2,299,885 tons carried one mile, the average charge being 6.11 cents per ton per mile. Cotton shipments were 14,258 bales, a decrease of 6,003 bales; hides, 812 tons, a decrease of 536 tons; wool, 471 tons, an increase of 76 tons; pecans, only 112 tons, a decrease of 708 tons, there having been a general failure of the

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Cumberland Valley.

This company owns a line from Harrisburg, Pa., southwest to Williamsport, Md., 82 miles, and it works under lease the Martinsburg & Potomac road, from Williamsport to Martinsburg, W. Va., 12 miles; the Dillsburg & Mechanicsburg road, from Mechanicsburg to Dillsburg, 8 miles; the Southern Penn-

crop. Government freights amounted to 1,372 tons; of lumber 4,000,000 feet were carried, and 4,250,000 shingles and laths. About 1,500 new ties were used in repairs and 5,000 are contracted for this year.

A summary of the income account is as follows:

Balance from last year.....	\$14,397 56
Net earnings.....	50,162 62
Total.....	\$64,560 18
Taxes and law expenses.....	\$5,978 58
Surveys for extension of road.....	361 65
New shops and tools.....	1,545 74
Loss from delinquent agents.....	514 92
Balance.....	\$56,139 29

The President says in his report:

"The competition of other rail routes compelled a large reduction of rates in the line of the heaviest business. The actual gross tonnage transported is but little changed from last year, but the rates realized for carrying it are much less—say in the proportion of 35 to 20 now.

"The local business proper of the road is gradually improving, with a prospect that it will become self sustaining within a few years. It is now too little to pay operating expenses. "It has been found entirely impracticable to obtain means for the completion of the road to San Antonio or even for the section from Cuero to Gonzales.

"Every effort has been made to restrain the operating expenditures within the smallest limits, and, while doing so, the road has been kept in safe working order and will now compare favorably, both as respects road way and rolling stock, with any road in the State.

"There has been no accident involving loss of human life or personal injury during the year."

Pennsylvania Company.

This company, as is well known, while its stock is entirely owned by the Pennsylvania Railroad Company, is a separate organization and now holds and operates all the system of lines west of Pittsburgh which were formerly leased or controlled by the Pennsylvania Railroad Company. For the following figures, briefly summing up the operations for the year 1874, we are indebted to the *Commercial and Financial Chronicle*. The company has never published any detailed report.

The following lines are worked under direct leases:

Pittsburgh, Fort Wayne & Chicago:

	1874.	1873.	Inc. or Dec.	P. c.
Earnings.....	\$8,599,472	\$9,619,074	Dec..	\$1,019,602 10%
Expenses.....	5,055,330	6,097,042	Dec..	1,031,712 16%
Net earnings.....	\$3,544,142	\$3,522,032	Inc..	\$22,110 0%
Rental, etc.....	2,852,014	2,617,177	Inc..	234,837 9%
Net profit.....	\$692,128	\$904,855	Dec..	\$212,727 23%
Earnings per mile.....	18,375	20,554	Dec..	2,179 10%
Per cent. of expenses.....	58.79	63.30	Dec..	4.51 7%

New Castle & Beaver Valley:

	1874.	1873.	Inc. or Dec.	P. c.
Earnings.....	\$352,319	\$351,080	Inc..	\$1,239 0%
Expenses.....	131,267	158,575	Dec..	27,308 17%
Net earnings.....	\$221,052	\$192,514	Inc..	\$28,538 14%
Rental, etc.....	140,927	140,435	Inc..	492 0%
Net profit.....	\$80,125	\$52,079	Inc..	\$28,046 28%
Earnings per mile.....	23,644	23,563	Inc..	81 0%
Per cent. of expenses.....	37.26	45.17	Dec..	7.91 17%

Lawrence:

	1874.	1873.	Inc. or Dec.	P. c.
Earnings.....	\$174,643	\$189,383	Dec..	\$14,740 7%
Expenses.....	100,109	113,371	Dec..	4,262 3%
Net earnings.....	\$65,534	\$76,012	Dec..	\$10,478 13%
Rental, etc.....	69,257	75,763	Dec..	6,506 7%
Net loss or profit.....	\$4,323	\$259	Dec..	\$4,064 15%
Earnings per mile.....	7,938	8,608	Dec..	\$670 7%
Per cent. of expenses.....	62.48	59.86	Inc..	2.62 4%

Erie & Pittsburgh:

	1874.	1873.	Inc. or Dec.	P. c.
Earnings.....	\$872,613	\$1,165,293	Dec..	\$292,680 25%
Expenses.....	490,226	680,894	Dec..	190,668 28%
Net earnings.....	\$382,387	\$484,399	Dec..	\$102,012 20%
Rental, etc.....	393,448	380,036	Inc..	13,412 3%
Net loss or profit.....	\$1,061	\$108,773	Dec..	\$107,712 10%
Earnings per mile.....	10,450	13,956	Dec..	\$3,506 25%
Per cent. of expenses.....	55.18	58.40	Dec..	3.22 3%

Cleveland & Pittsburgh:

	1874.	1873.	Inc. or Dec.	P. c.
Earnings.....	\$2,972,556	\$1,437,735	Dec..	\$1,534,821 106%
Expenses.....	1,483,150	1,874,722	Dec..	391,572 26%
Net earnings.....	\$1,489,406	\$1,797,013	Dec..	307,607 17%
Rental, etc.....	1,266,197	1,337,354	Dec..	71,157 5%
Net profit.....	\$223,209	\$459,659	Dec..	\$236,450 51%
Earn. per mile.....	14,937	18,451	Dec..	3,514 19%
Per cent. of exps.....	49.89	61.06	Dec..	1.17 2%

Jeffersonville, Madison & Indianapolis:

	1874.	1873.	Inc. or Dec.	P. c.
Earnings.....	\$1,348,582	\$1,437,577	Dec..	\$88,995 6%
Expenses.....	829,512	991,377	Dec..	161,865 16%
Net earnings.....	\$519,070	\$446,200	Inc..	\$72,870 16%
Rental, etc.....	497,055	636,230	Dec..	139,175 28%
Net profit or loss.....	\$21,415	\$89,936	Dec..	\$68,521 32%
Earn. per mile.....	5,994	6,389	Dec..	\$395 6%
Per cent. of exps.....	61.81	69.00	Dec..	7.19 10%

It thus appears that these lines yielded the lessee in 1874 a net profit of \$1,011,488, against \$1,431,589 in 1873. Deducting the loss on the lines given below, there appears a net profit of \$820,136. The net loss on the Pittsburgh, Cincinnati & St. Louis system (given elsewhere) appears as \$773,000, which would reduce the net profit to \$47,136.

The following lines were operated under various agreements, and their earnings were not reported in 1873:

	Earn.	Exps.	Net earn.	Per c. of exps.
Ashtabula, Youngstown & Pittsburgh.....	\$211,816	\$160,270	\$41,546	35.62 75.66
Mansfield, Coldwater & Lake Michigan.....	95,060	82,858	12,202	2,569 87.16
Toledo,iffin & Eastern.....	121,845	92,613	29,232	2,834 76.01
Indianapolis & Vincennes.....	274,595	191,387	83,208	2,347 69.70

The rental and interest paid on the Ashtabula, Youngstown and Pittsburgh exceeded the net earnings by \$63,694, and those paid on the Indianapolis & Vincennes were \$127,553 more than the net earnings, showing a total loss of \$191,347. The rental paid for the other two roads was simply the net earnings.

The capital accounts of the various lines were as follows, as far as reported:

	Miles.	Stock.	Funded debt.	Other debt.
Pitts., Ft. Wayne & Chi.....	468.39	\$23,814,286	\$13,536,000	
New Castle & B. V.....	14.90	608,000		
Lawrence.....	23.00	450,000	355,000	
Erie & Pittsburgh.....	83.50	2,000,000	3,467,000	\$ 909
Cleveland & Pitts.....	199.00	11,243,211	5,015,344	598,473
Jeff., Mad. & Ind.....	226.00	2,000,000	4,853,000	328,001
Ash., Youngs., & Pitts.....	62.60	1,758,550	1,900,000	85,088
Mans., Cold. & L. M.....	88.70	1,481,092	1,600,000	160,135
Tol., Eff. & East.....	43.06	276,068	1,286,000	5,518
Ind. & Vincennes.....	117.00	1,402,000	3,150,000	

LOCOMOTIVE RETURNS, DECEMBER, 1874.

Master Mechanics of all American railroads are invited to send us their monthly reports for this table.

NAME OF ROAD.	Number of miles operated.	Number of Locomotives in service.	Mileage.	No. Miles run to		Average No. of Freight Cars Hauled.	Cost per Mile in Cents for						Average cost of Coal, per ton.	Wood, per cord.
				Train	Freight		Cost per Mile in Cents for							
							Repairs	Fuel.	Stores.	Miscellaneous.	Engineers, firemen and wages	Total.		
Allegheny Valley.....	259	60	125,067	31.20	19.10	13.01	5.47	0.94	7.19	27.01	\$1.60	\$3.70		
Atlantic & Great Western (First & Second Div.).....	228	50	182,121	34.92	17.56	5.35	6.5	0.63	0.96	6.87	19.90	2.30	3.80	
" " (Third & Fourth Div.).....	121	58	110,766	34.92	20.82	4.87	6.39	0.45	0.99	6.01	18.71	2.30	3.80	
" " (Mahoning Division).....	197	58	105,479	34.92	18.60	4.10	6.39	0.43	0.76	6.17	17.85	2.30	3.80	
" " (Shenango & Allegheny).....	33	9	14,763	52.9	25.32	3.04	15.25	0.58	0.48	6.94	26.29	2.80	3.80	
California Pacific.....	148	12	37,010	50.89	21.19	6.56	20.78	0.77	0.46	7.85	36.42	7.25	6.00	
Central Pacific (Western Division).....	173.4	42	121,592	38.06	17.44	10.19	16.56	0.80	0.55	8.45	37.44	7.71	4.78	
" " (Sacramento Division).....	110.5	38	100,135	38.06	15.17	10.55	9.79	0.72	0.77	8.56	40.23	7.71	4.78	
" " (Truckee Division).....	204.5	27	72,182	33.99	28.18	7.9	22.19	0.69	0.54	7.37	38.78	7.71	4.78	
" " (Humboldt Division).....	236.6	31	64,587	39.1	16.26	12.00	0.73	0.72	0.52	7.88	41.85	7.71	4.78	
" " (Salt Lake Division).....	182.8	23	67,738	36.26	17.31	4.63	11.61	0.76	0.84	7.03	27.77	4.78	4.78	
" " (Oregon Division).....	181.48	13	28,175	41.16	22.11	9.63	16.21	0.79	0.08	6.9	38.03	7.71	4.78	
" " (Vernalis Division).....	151.48	7	34,704	42.54	50.00	5.44	8.07	0.54	0.82	7.97	22.92	2.70	4.30	
Chicago, Burlington & Quincy.....	1,264	300	666,111	34.36	18.82	3.58	7.78	0.49	0.71	7.01	19.11	2.0	3.80	
Chicago, Rock Island & Pacific (Illinois Div.).....	78	98	204,801	34.56	15.74	3.18	8.97	0.49	0.71	7.01	19.11	2.0	3.80	
" " (Iowa Division).....	78	98	194,393	29.85	15.25	3.69	7.43	0.54	0.54	7.15	18.81	2.60	3.80	
" " (Southwestern Div.).....	50	50	118,767	33.47	11.89	4.24	8.18	0.62	0.76	7.26	20.20	2.77	3.80	
Cleve., Col., Cin. & Ind. (Columbus Div.).....	138	58	145,682	41.77	27.05	2.77	6.57	0.49	0.76	17.63	2.18	3.80	3.80	
" " (Indianapolis Div.).....	207	65	192,192	36.56	39.55	4.6	4.12	0.73	7.22	16.77	2.00	1.98	1.98	
" " (Cincinnati Div.).....	130	29	76,944	35.84	30.29	7.26	3.97	0.43	6.3	18.38				
Cleveland & Pittsburgh.....	90	25	147,415	54.57	18.27	4.07	15.16	0.48	7.05	27.36	4.40			
Del., Lacka. & West. (Bloomburg Div.).....	80	25	51,680	37.64	24.65	4.25	8.05	0.5	6.05	19.51		4.30	4.30	
" " (Morris & Essex Div.).....	80	25	98,770	35.36	25.85	2.85	5.06	0.4	2.38	6.73	8.94	2.79	2.79	
Flint & Pere Marquette.....	90	25	172,546	39.26	13.63	4.99	9.69	0.53	0.65	11.86	4.05	6.00	6.00	
Jeffersonville, Madison & Indianapolis.....	225	43	97,799	45.18	31.64	5.23	8.21		6.53	19.97	3.70			
Kansas Pacific (including Denver Pacific).....	995	94	172,546	39.26	13.63	5.05	8.90		6.18	20.53	3.50	4.00	4.00	
Kansas City, St. Joseph & Council Bluffs.....	995	94	172,546	39.26	13.63	5.02	11.13		6.24	22.40	4.00	4.00	4.00	
Lake Shore & Michigan South. (Buffalo Div.).....	93	93	204,127	42.6	44.71	4.89	10.85		6.71	22.83	4.50	3.5	3.5	
" " (Erie Div.).....	114	238	138,181	39.27	77.37	4.46	6.06	0.30	5.51	7.86	3.62	3.80	3.80	
" " (Toledo Div.).....	79	168	301,335	52.49	12.17	12.19	13.74	0.19	0.77	37.69				
" " (Mich. South Div.).....	211	434	964,341	53.47	18.64	9.15	2.8	0.92	6.11	25.48	0.19	3.00	3.00	
Leavenworth, Lawrence & Galveston.....	203.7	18	21,239	38.80	35.20	12.06	16.20	1.2	80.05	0.18	2.80			
Marquette, Houghton & Ontonagon.....	30	18	18,530	53.3	20.56	5.50	10.30	1.1	17.61	0.18	6.91			
Northern Central (Elmira & Canandaigua Div.).....	119.9	40	66,698	39.51	16.13	3.0	5.71	0.60	9.50	0.06	3.44			
Pennsylvania (New York Division).....	119.9	40	274,748	31.87	10.78	4.10	5.70	0.40	10.30	0.06	3.44			
" " (Amboy Division).....	154.2	55	94,631	50.22	14.25	10.60	8.10	0.90	9.50	0.06	3.44			
" " (Belvidere Division).....	102.5	39	67,502	38.54	12.20	7.00	5.10	0.83	13.20	0.06	3.44			
" " (Philadelphia Division).....	204.3	128	398,978	31.31	13.85	4.20	6.83	0.60	11.1	0.06	3.44			
" " (Middle Division).....	131.6	128	309,626	31.32	21.28	3.80	4.30	0.49	12.80	0.06	3.44			
" " (Pittsburgh Division, East End).....	103	64	138,564	31.31	12.25	0.90	3.10	0.40	4.40	0.06	3.44			
" " (Pittsburgh Division, West End).....	103	103	268,000	32.51	12.29	4.23	5.02	0.87	1.61	6.64	18.37	1.89	1.89	
" " (Tyrona Division).....	106.8	23	48,26	26.19	25.25	4.80	4.90	0.80	1.70	6.60	17.90	1.90	1.90	
" " (West Pennsylvania Division).....	103.6	25	44,73	42.26	3.25	3.96	4.27	0.9	2.8	7.06	19.8	1.75	1.75	
" " (Lewistown Division).....	62.5	8	13,765	66.85	21.01	5.76	6.55	0.72	13.06			2.81	2.81	
" " (Bedford Division).....	56.5	8	6,546	61.26	28.25	0.88	7.17	0.85	7.87	9.25				
Pitts., Fort Wayne & Chicago (Eastern Div.).....	468.9	180	469,974	37.00	16.17	2.6	11.10	0.80	9.40	20.70	3.75	3.80	3.80	
" " (Western Div.).....	290	106	270,363	43.86	16.10	8.20	5.0	0.40	6.70	1.20	1.90	1.90	1.90	
Pitts., Cin. & St. Louis (Little Miami Div.).....	242	40	100,117	41.10	13.13	3.96	4.27	0.9	2.8	7.06	19.8	1.75	1.75	
Stockton & Copperopolis.....	49	3	3,940			5.76	6.55	0.72	13.06			2.81	2.81	
St. Joseph & Denver City.....	228.5	46	39,197	35.00	11.60	0.88	7.17	0.85	7.87	9.25				
Toledo, Peoria & Warsaw.....	228.5	46	70,430	34.40	22.10	2.6	11.10	0.80	9.40	20.70	3.75	3.80	3.80	